

DEPARTMENT OF CONSERVATION

DIVISION OF MINES AND GEOLOGY

OFFICE OF STRONG MOTION STUDIES

630 BERKUT DRIVE

SACRAMENTO, CA 95814-0189

(PHONE 916-322-3105)



Plots to Accompany Tape: WHITTIER87-CALTECH

Processed Strong-Motion Data from Caltech stations for the
Whittier Earthquake of 1 October 1987

California Strong Motion Instrumentation Program (CSMIP)

OSMS 91-10

The attached plots are for 10 stations (1 building and 9 ground response) that recorded the Whittier earthquake at the California Institute of Technology (caltech). The plots for these stations are arranged as follows:

Set No.	Station Name	No. of Channels
1	Pasadena - Caltech Millikan Library	10
2	Pasadena - Caltech Mudd Laboratory	3
3	Pasadena - Caltech Bridge Laboratory	3
4	Pasadena - Caltech Keck Laboratory	3
5	Pasadena - Caltech Brown Athletic Center	3
6	Pasadena - Caltech California Blvd. House	3
7	Pasadena - Caltech Athenaeum	3
8	Pasadena - Caltech Industrial Relations Center	3
9	Pasadena - Caltech Lura Street House	3
10	Pasadena - Caltech Kresge Seismological Laboratory	3

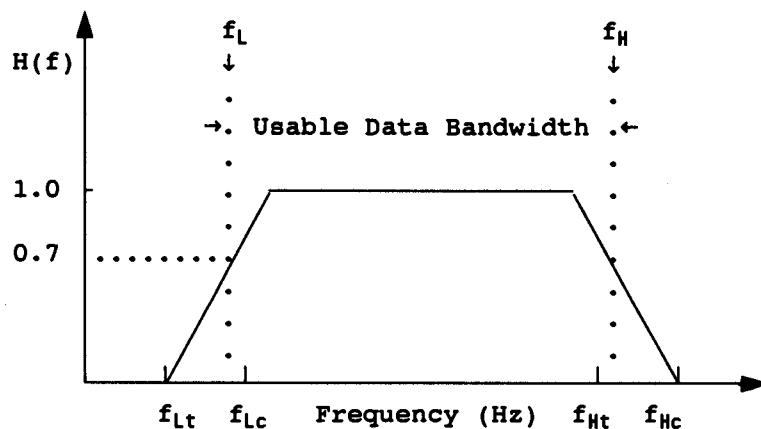
The set of plots for each station is identified by the above station number at the upper corner of each page. For each staton, four sets of plots are presented in the following order:

1. Phase 1 (Vol. 1) data: uncorrected accelerations. Acceleration for the first 22 seconds is plotted with a common amplitude scaling factor for all channels. Three channels are plotted on one page. The plots for the data beyond 30 seconds are also included for long duration records.
2. Phase 2 (Vol. 2) data: instrument and baseline-corrected acceleration, velocity and displacement. The data for the first 22 seconds are plotted with equal scaling for all channels unless otherwise specified. Three channels are plotted on each page. The frequency bandwith of the Phase 2 data, as determined during processing, is indicated on the plots.
3. Phase 3 (Vol. 3) data: response spectra. The pseudo-velocity spectra (PSV), the pseudo-acceleration spectra (PSA), the displacement spectra (SD) for 0%, 2%, 5%, 10%, and 20% dampings are presented on a tripartite logarithmic plot for each channel. The spectra are plotted for periods within the usable data bandwidth.
4. Phase 3 (Vol. 3) data: response spectra. The absolute acceleration spectra (SA) for 0%, 2%, 5%, 10% and 20% dampings are plotted against period with linear-linear scaling.

Note: The analog accelerograms are described in "Accelerograms Recorded at Caltech during the Whittier Narrows Earthquake of October 1 and 4, 1987: A Preliminary Report" by M. B. Levine, J. L. Beck, W. D. Iwan, P. C. Jennings and R. Relles. Earthquake Engineering Research Lab of the California Institute of Technology, Report EERL 88-01, 1988.

USABLE DATA BANDWIDTH

The filter bands for each record are indicated on the plots for the Phase 2 and Phase 3 data. The digitized data are processed and filtered using Ormsby filters. The data are first low-pass filtered by a high-frequency filter (typically with a corner frequency of 23 Hz and a roll-off termination frequency of 25 Hz), and then high-pass filtered by a low-frequency filter. The corner frequency of the low-frequency filter may be different for different records. Therefore, the Phase 2 data is the result of the digitized data being filtered by the bandpass filter $H(f)$ with ramps as shown in the figure:



The usable data bandwidth is defined as the band between frequencies f_H and f_L , where f_H and f_L are the -3 dB points on the high-frequency and low-frequency ramps, respectively. The value of $H(f)$ is approximately equal to 0.7 for -3 dB (see Notes). The user should only use these data for analyses within this bandwidth.

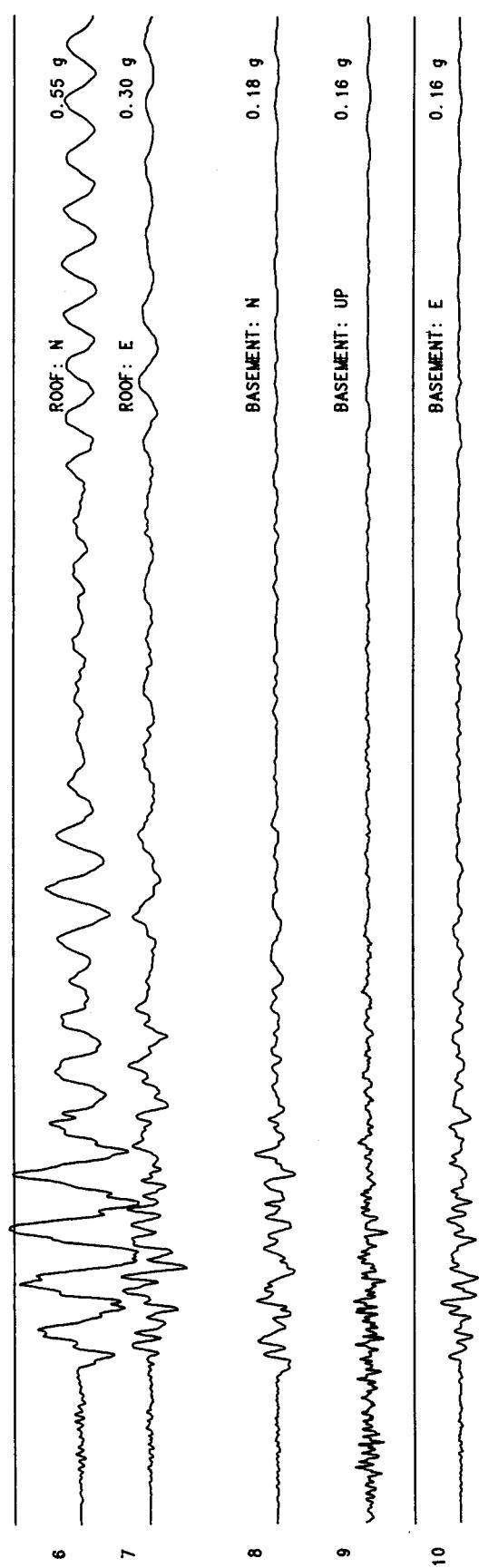
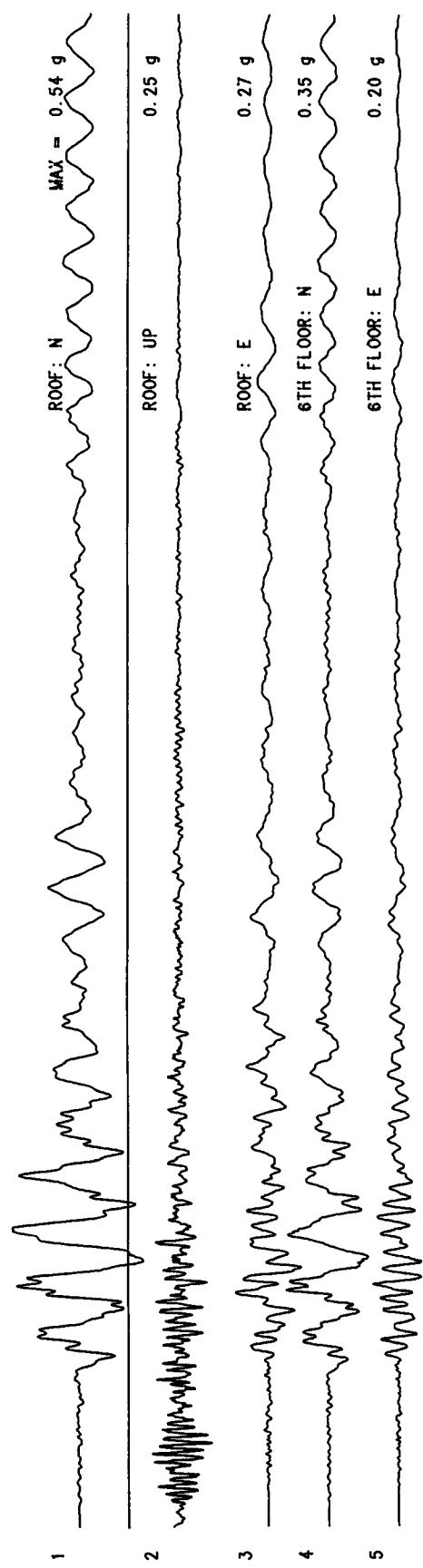
Notes:

- 1) The values of f_H and f_L can be calculated from the corner frequencies (f_{Hc} , f_{Lc}) and the roll-off termination frequencies (f_{Ht} , f_{Lt}) used in the processing by using the formulas $f_H = f_{Hc} + 0.3 * (f_{Ht} - f_{Hc})$ and $f_L = f_{Lc} - 0.3 * (f_{Lc} - f_{Lt})$. For example, the usable data bandwidth for data bandpass-filtered with ramps at 0.25 to 0.50 Hz and 23.0 to 25.0 Hz is 0.42 Hz to 23.6 Hz.
- 2) It is common in signal processing to plot $20 \log_{10}[H(f)]$ versus frequency, and express the ordinate value in decibels (abbreviated dB). Accordingly, 0 dB corresponds to a value of $H(f)$ equal to 1; 20 dB is equivalent to $H(f) = 10$, and -20 dB corresponds to $H(f) = 0.1$. Thus, at the -3 dB frequency point, the amplitude of the transfer function, $H(f)$, is reduced to 0.7, while the power transmitted by the filter, $H^2(f)$, is reduced to 0.5.

PASADENA - CALTECH MILLIKAN LIBRARY

RECORD 80045-C0146-87000.03

WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT

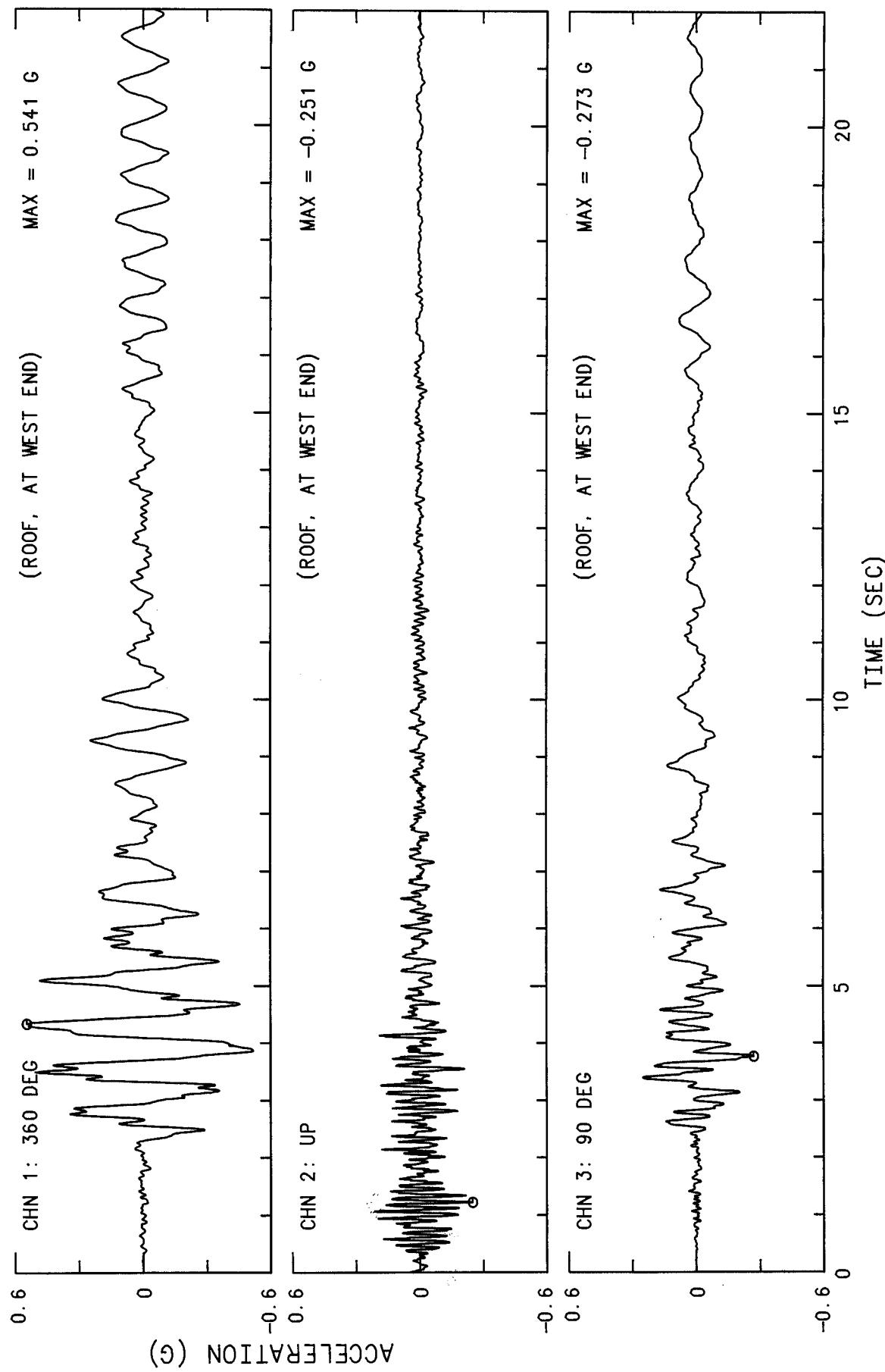


TIME - SECONDS
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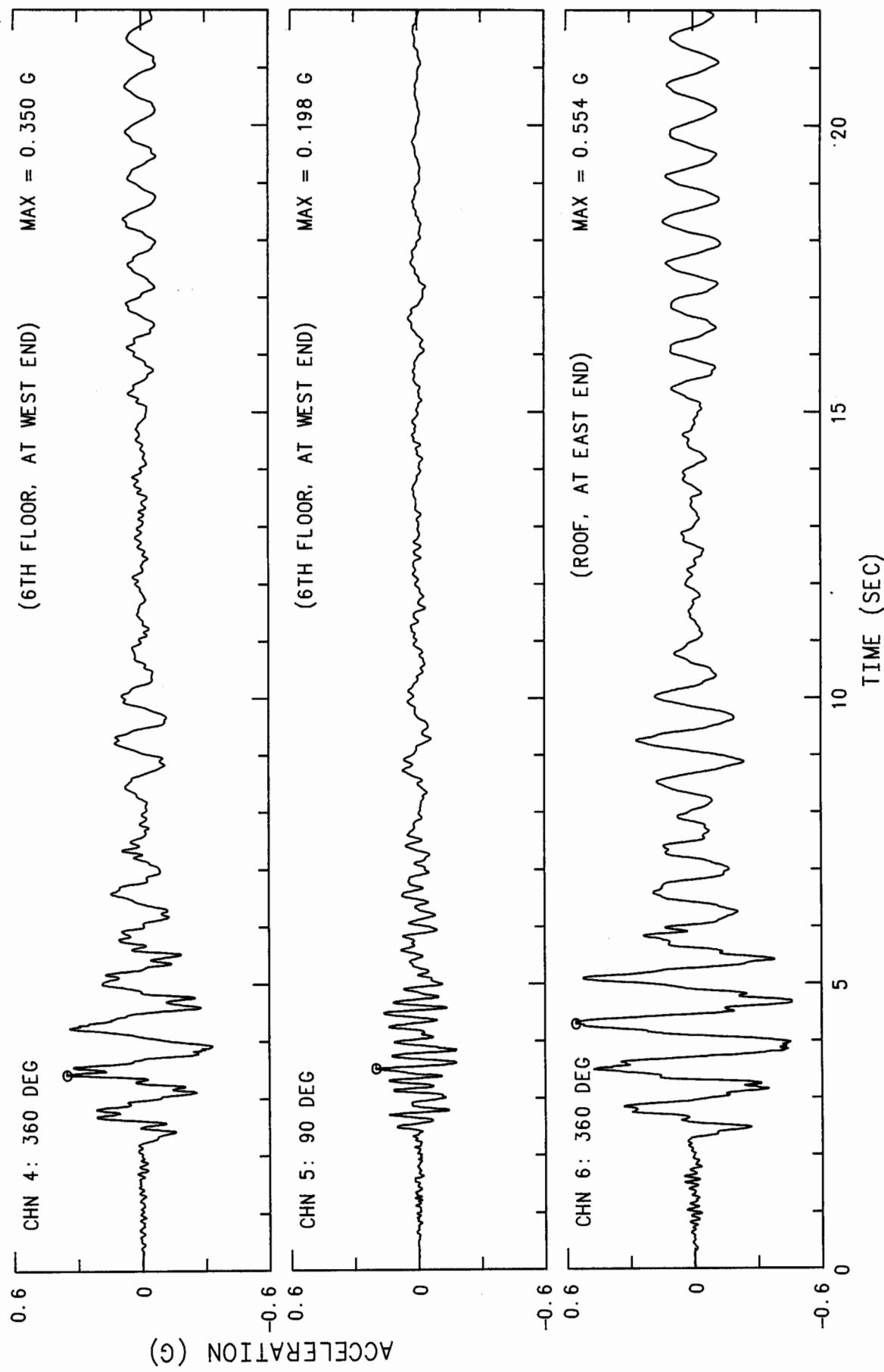
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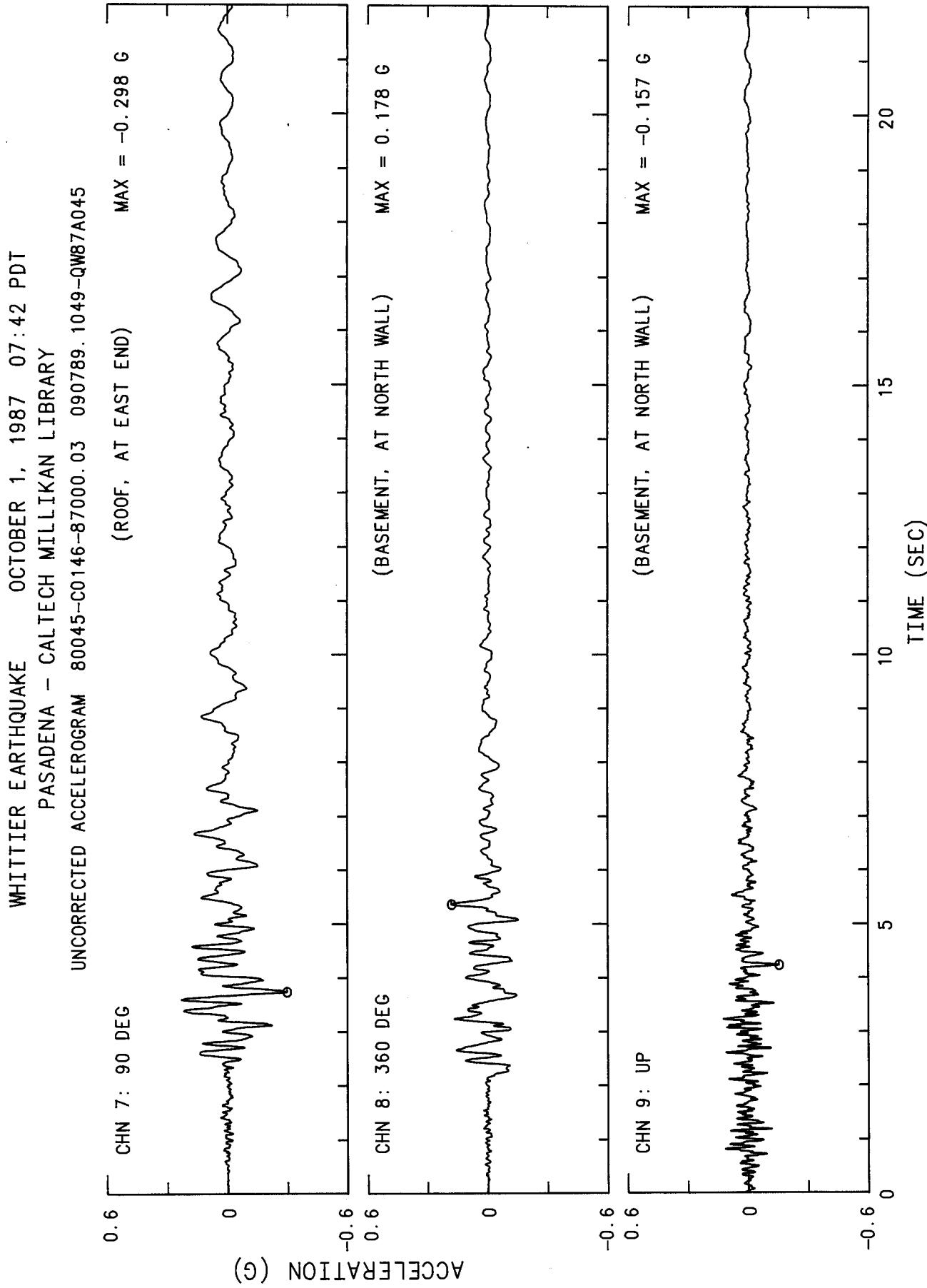
PASADENA - CALTECH MILLIKAN LIBRARY

UNCORRECTED ACCELERogram 80045-C0146-87000.03 090789.1049-QW87A045

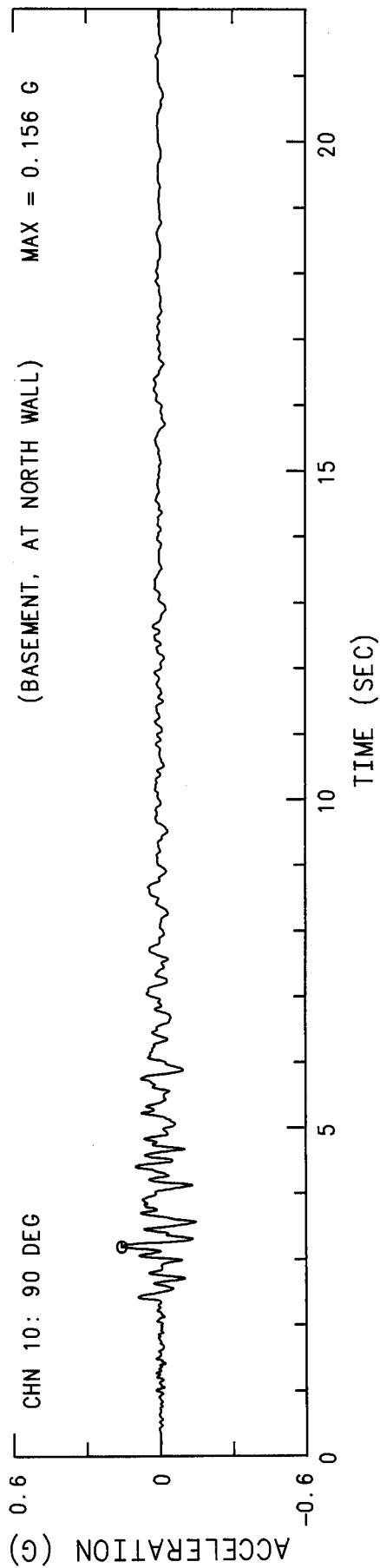


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UNCORRECTED ACCELERGRAM 80045-C0146-87000.03 090789.1049-QW87A045





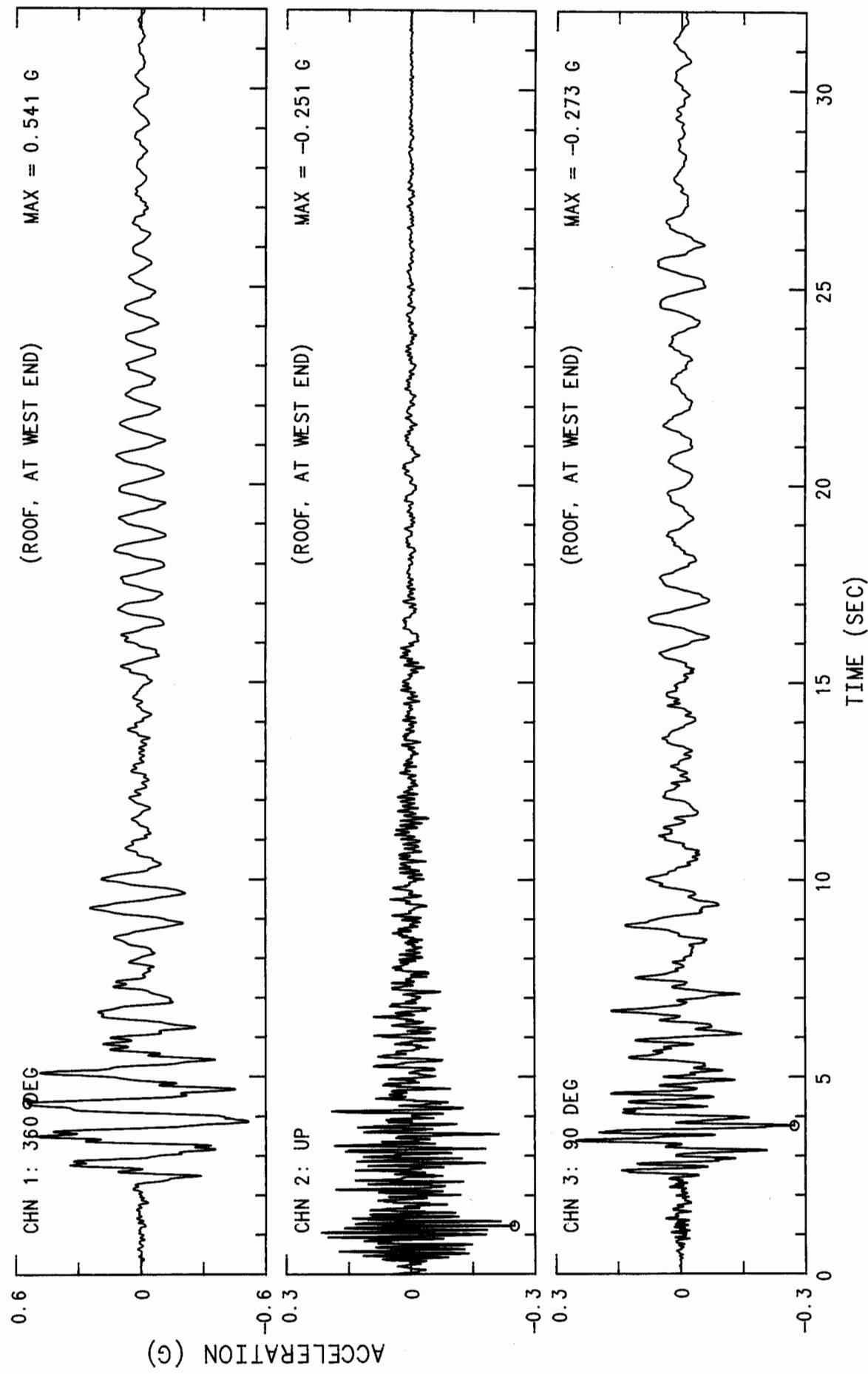
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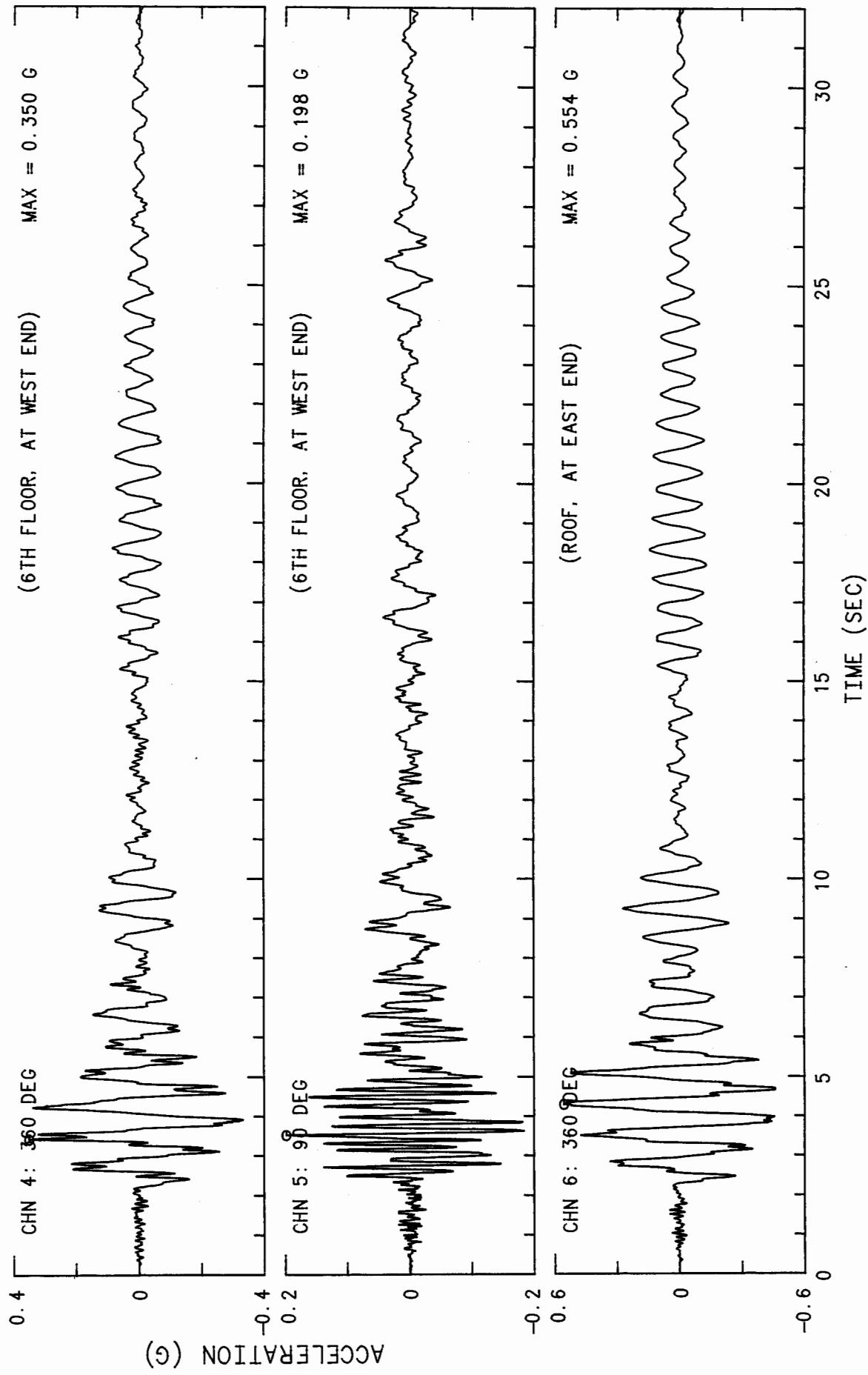
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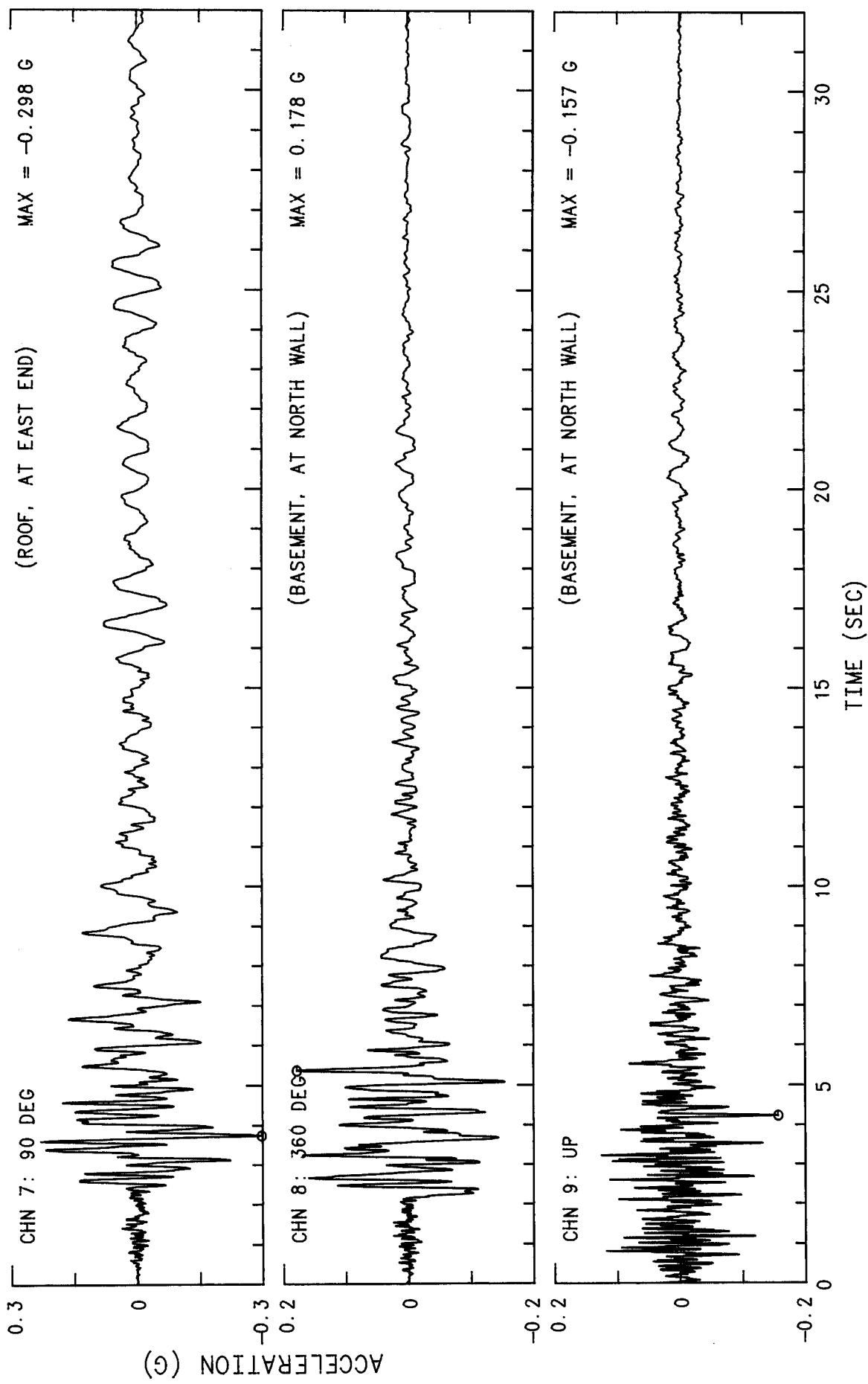
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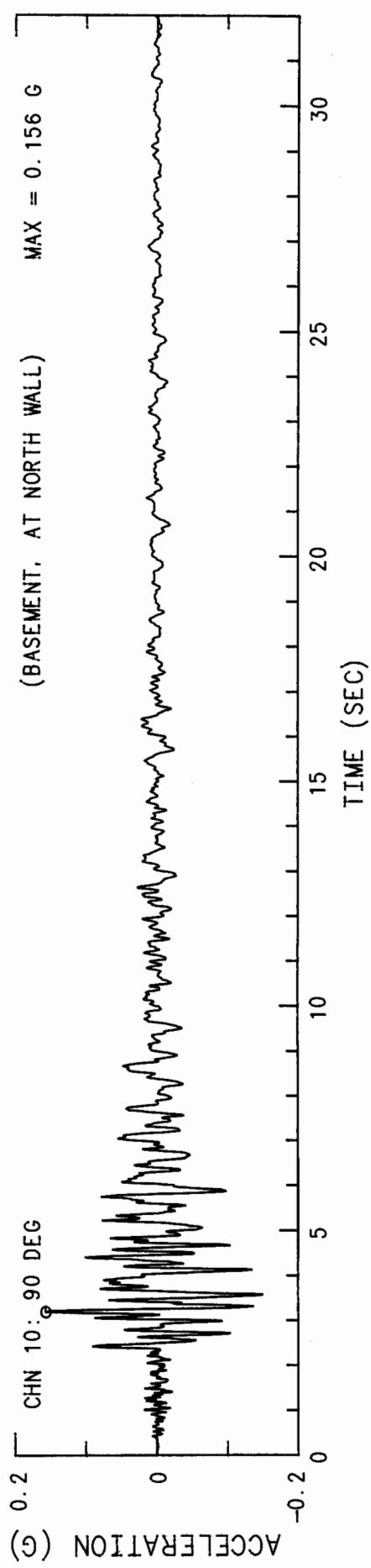
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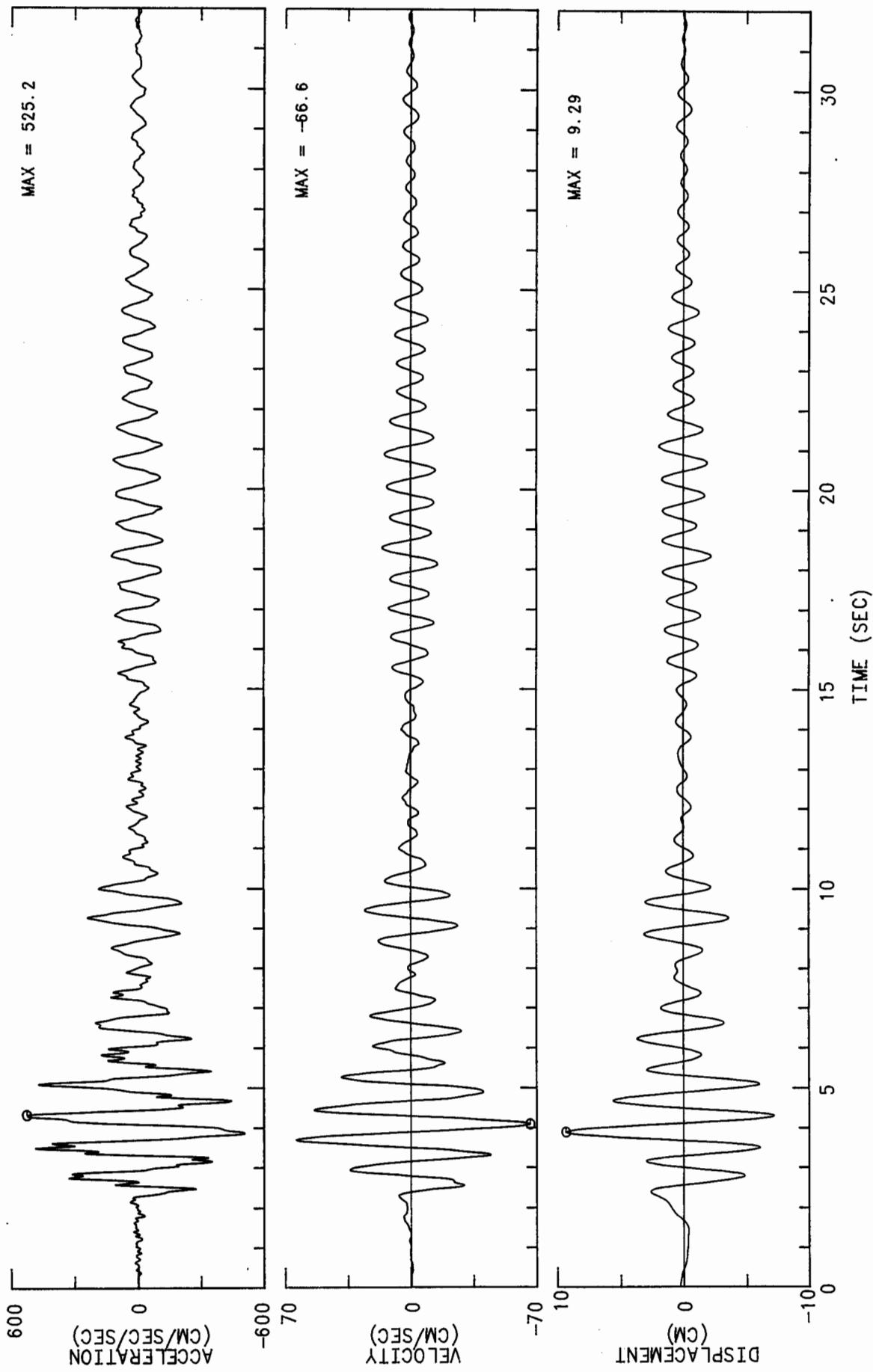
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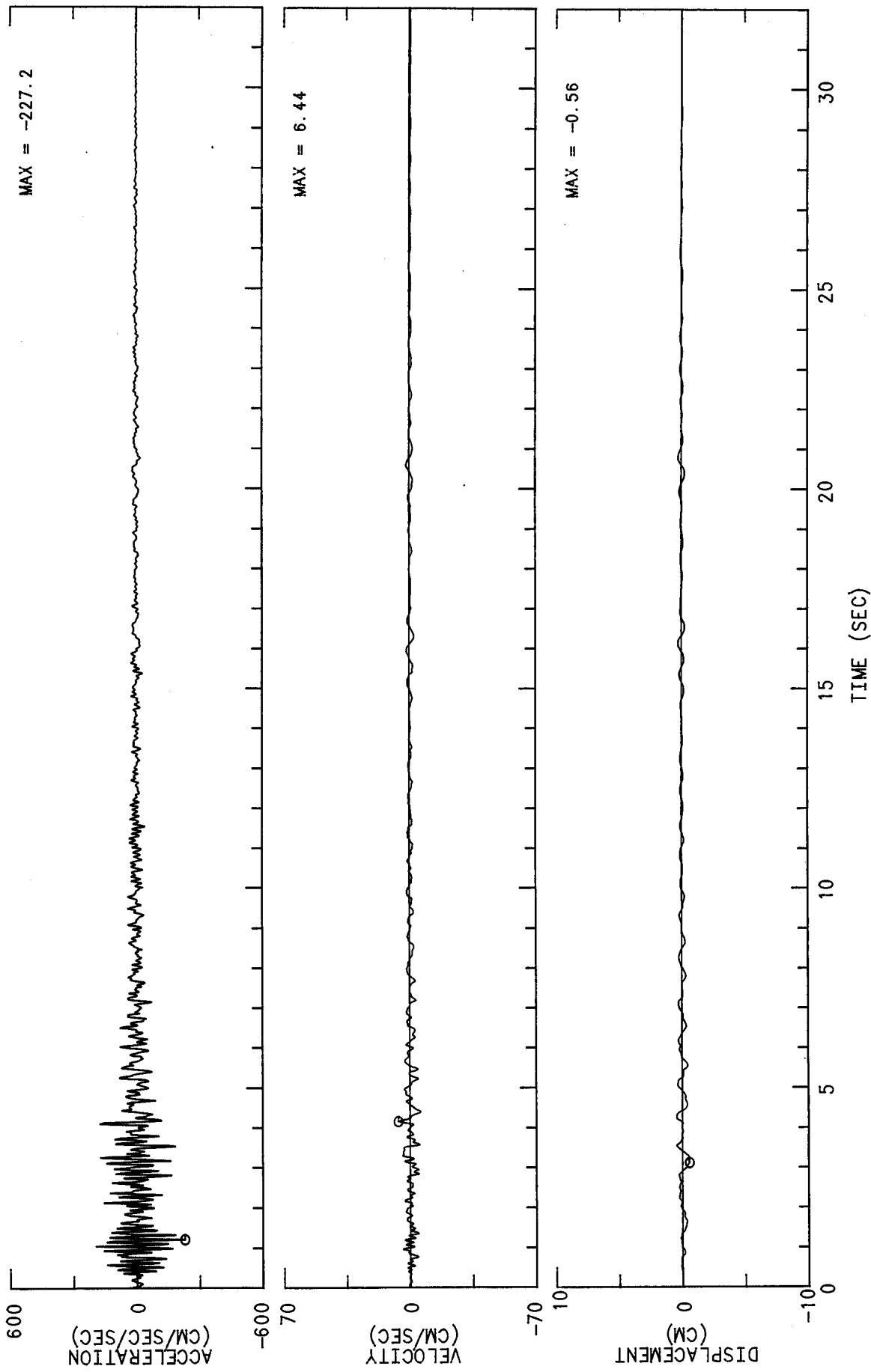
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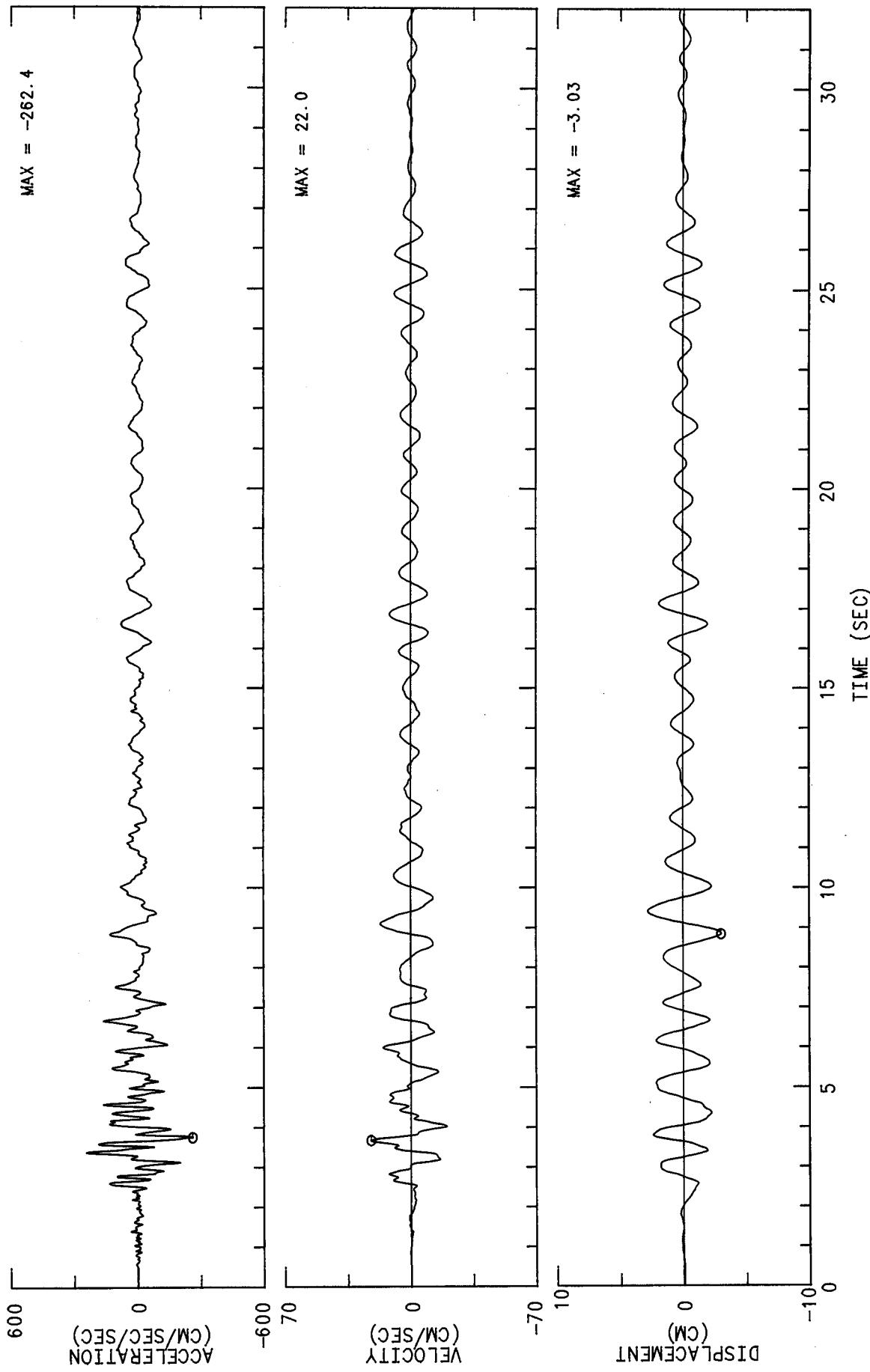
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 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



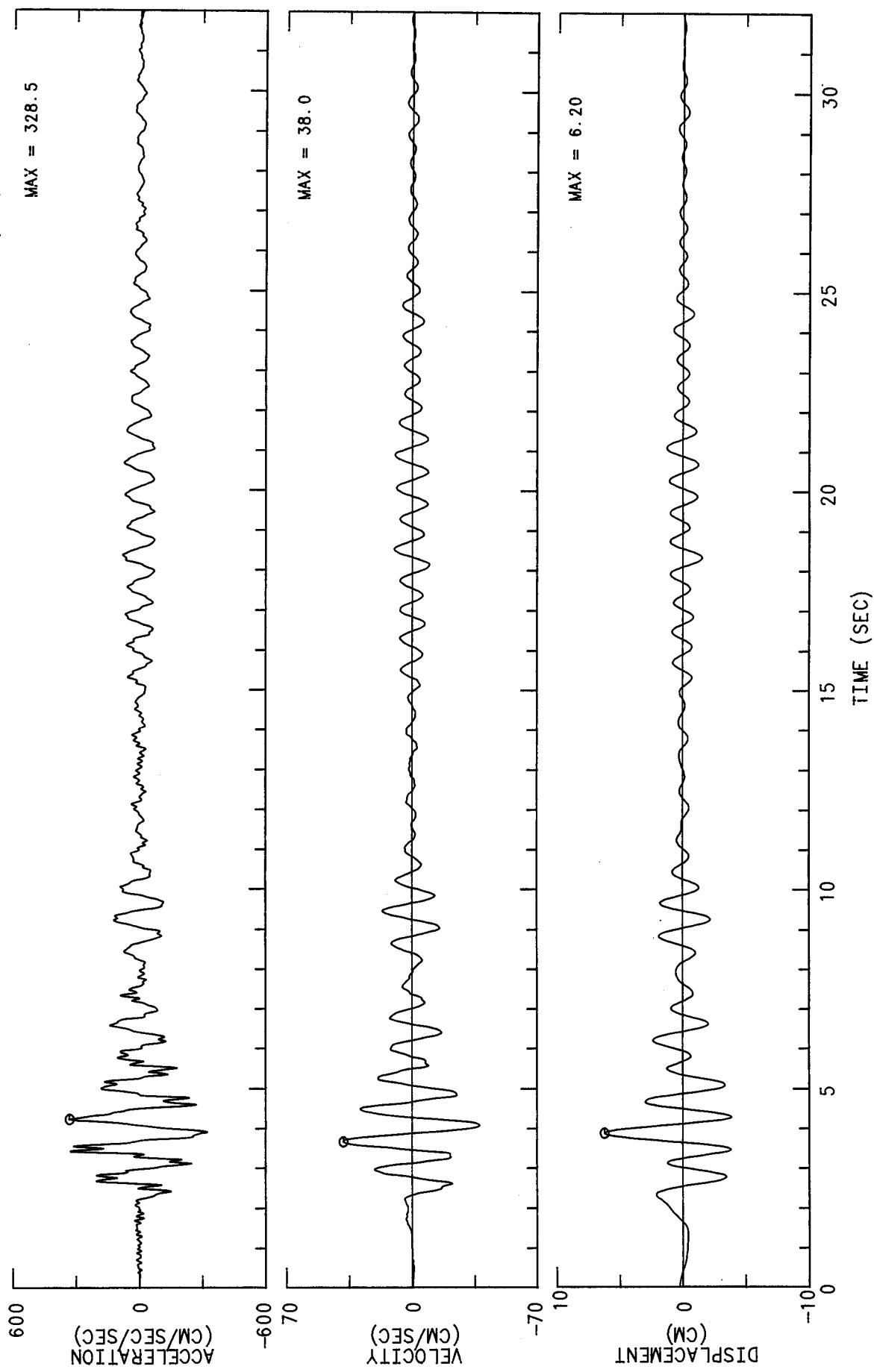
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PASADENA - CALTECH MILLIKAN LIBRARY CHN 2: UP (ROOF, AT WEST END)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



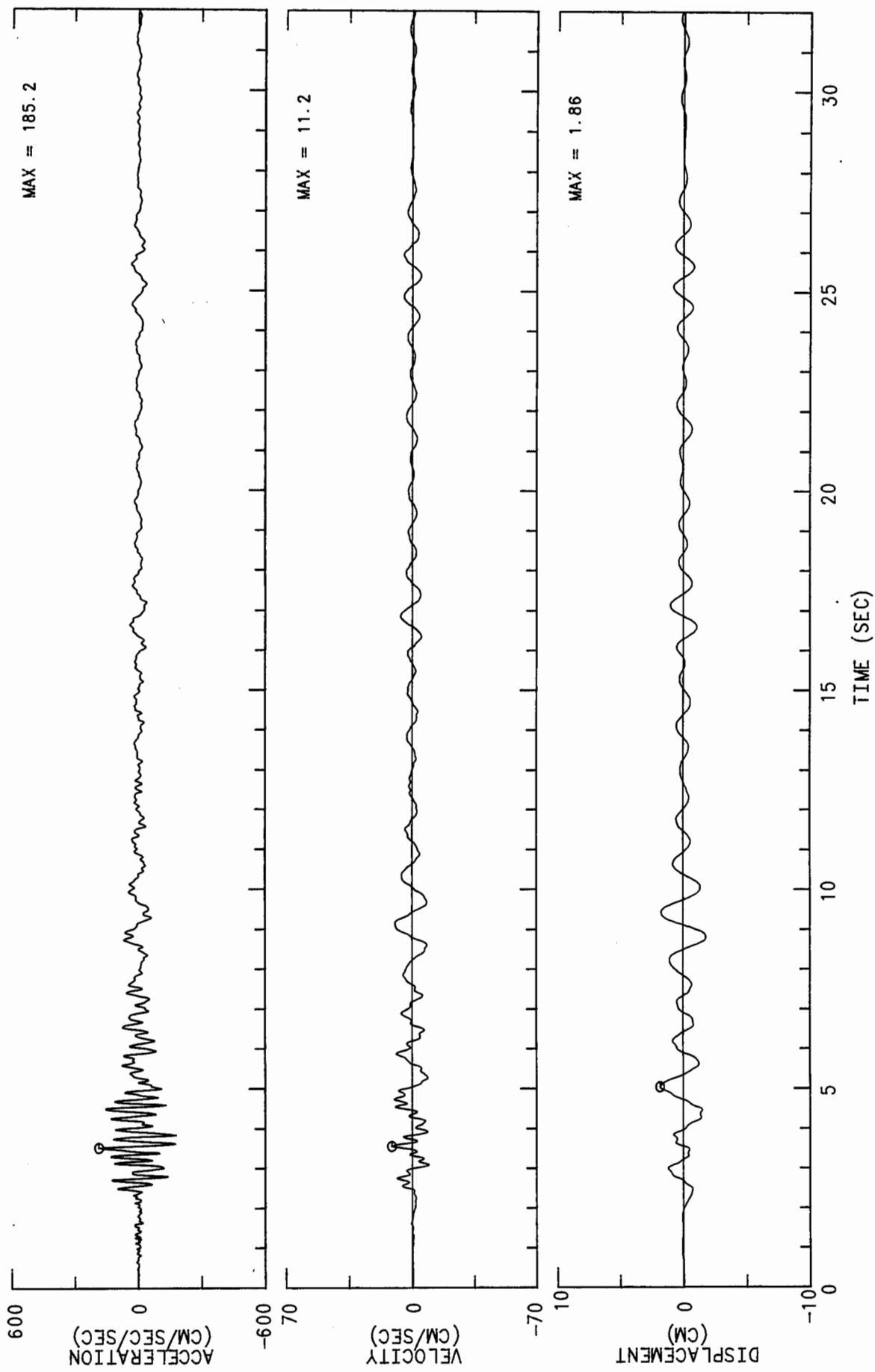
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INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



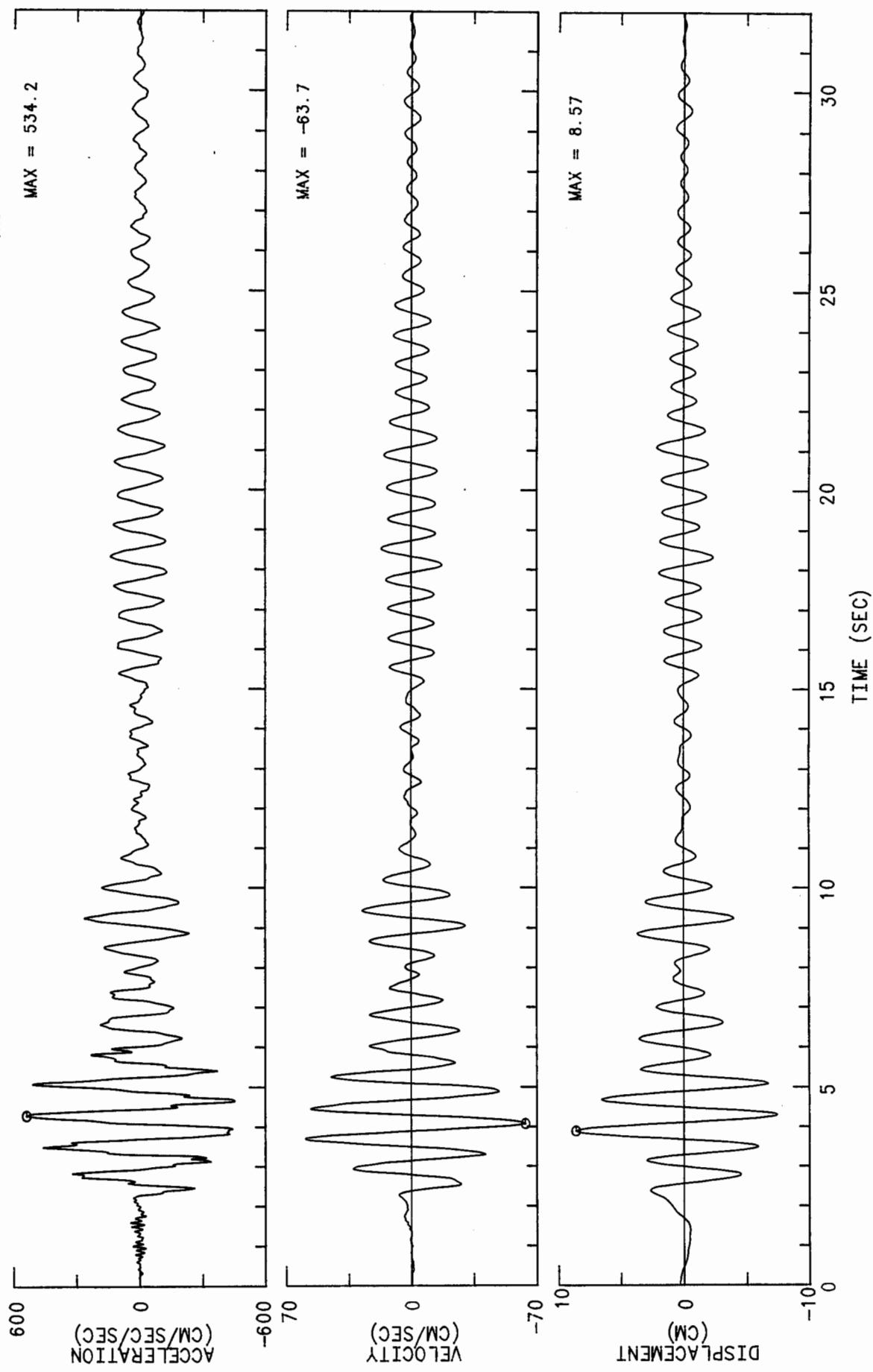
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 PASADENA - CALTECH MILLIKAN LIBRARY CHN 4: 360 DEG (6TH FLOOR, AT WEST END)
 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



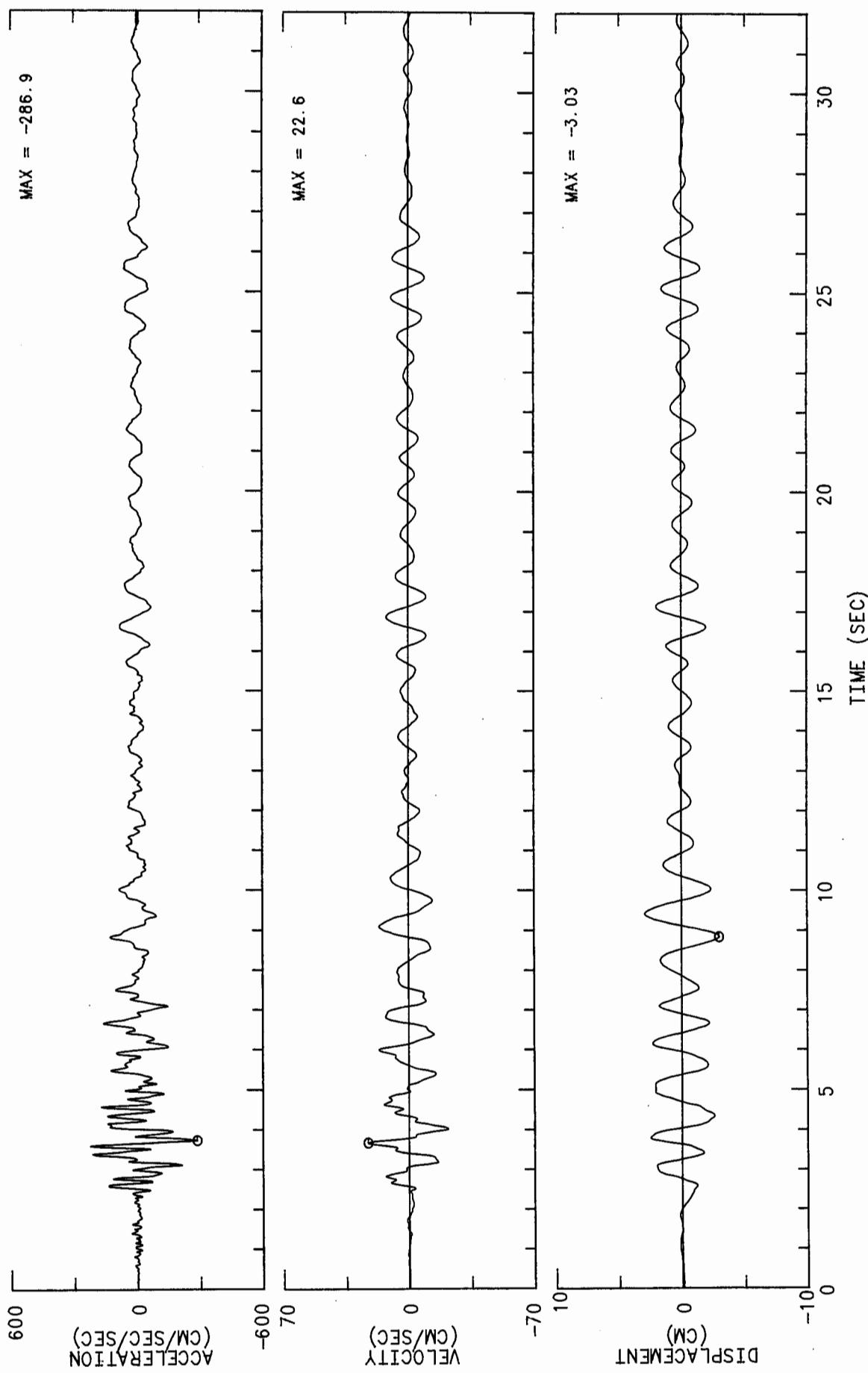
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INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
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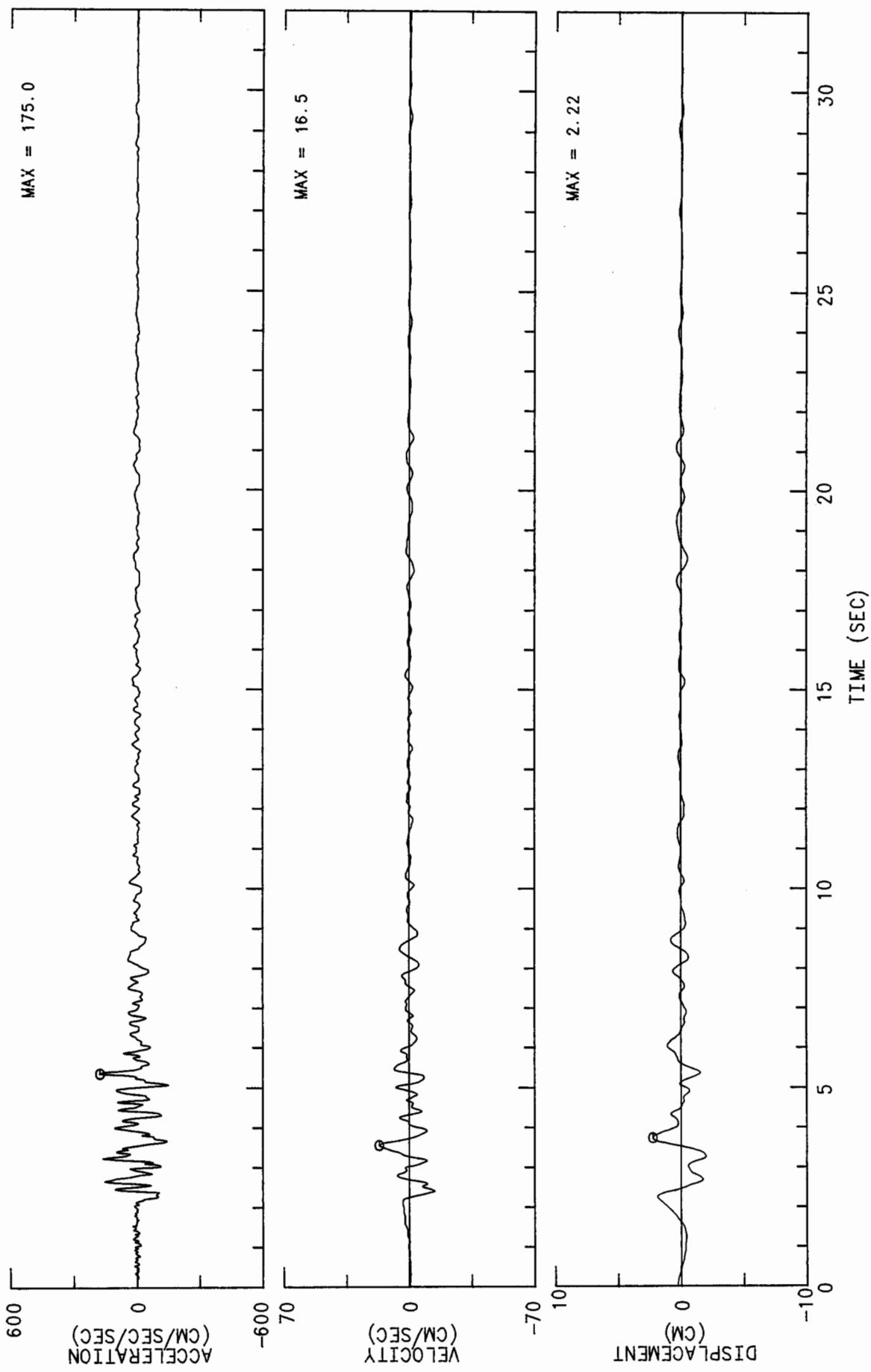
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 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



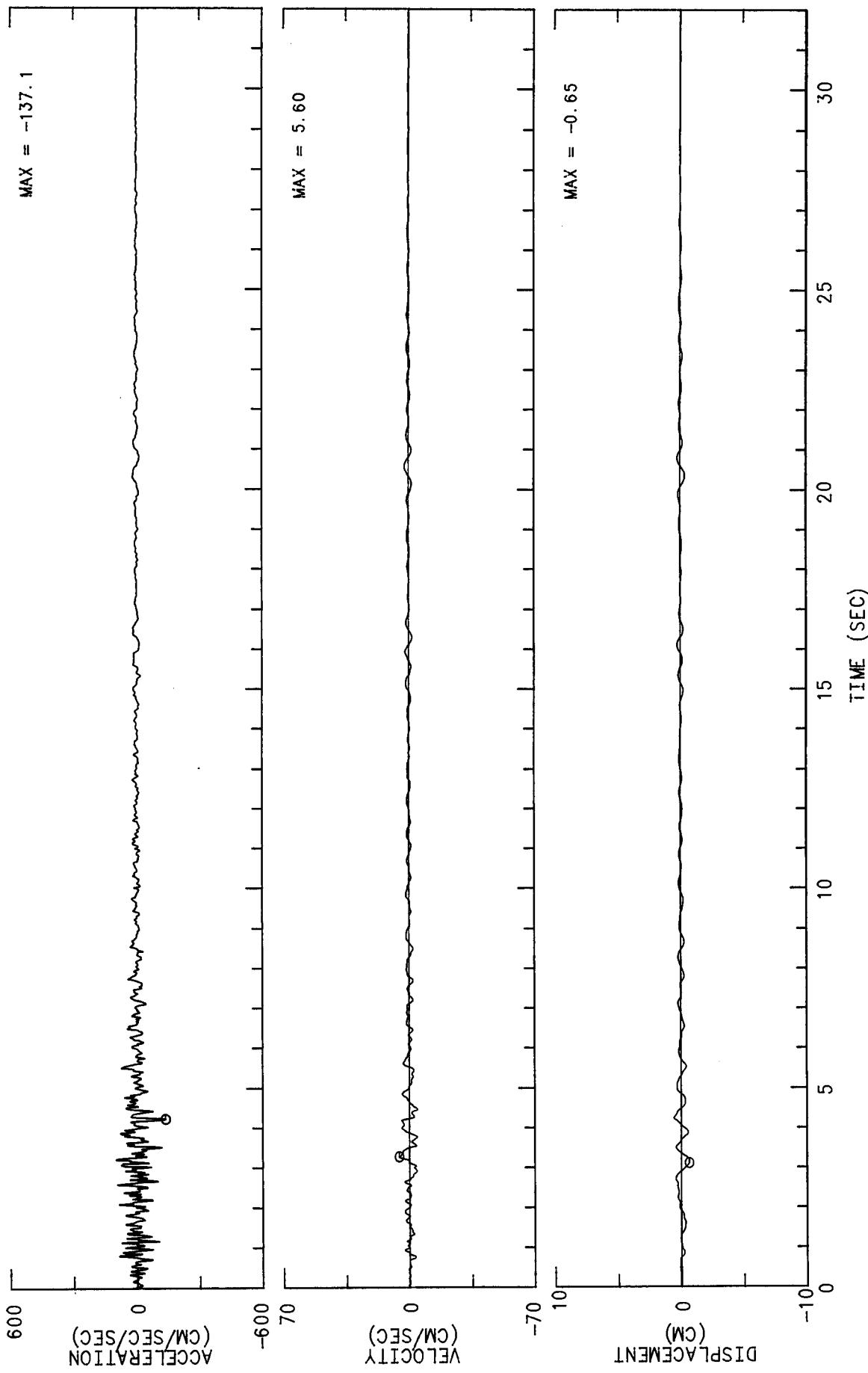
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PASADENA - CALTECH MILLIKAN LIBRARY CHN 7: 90 DEG (ROOF, AT EAST END)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



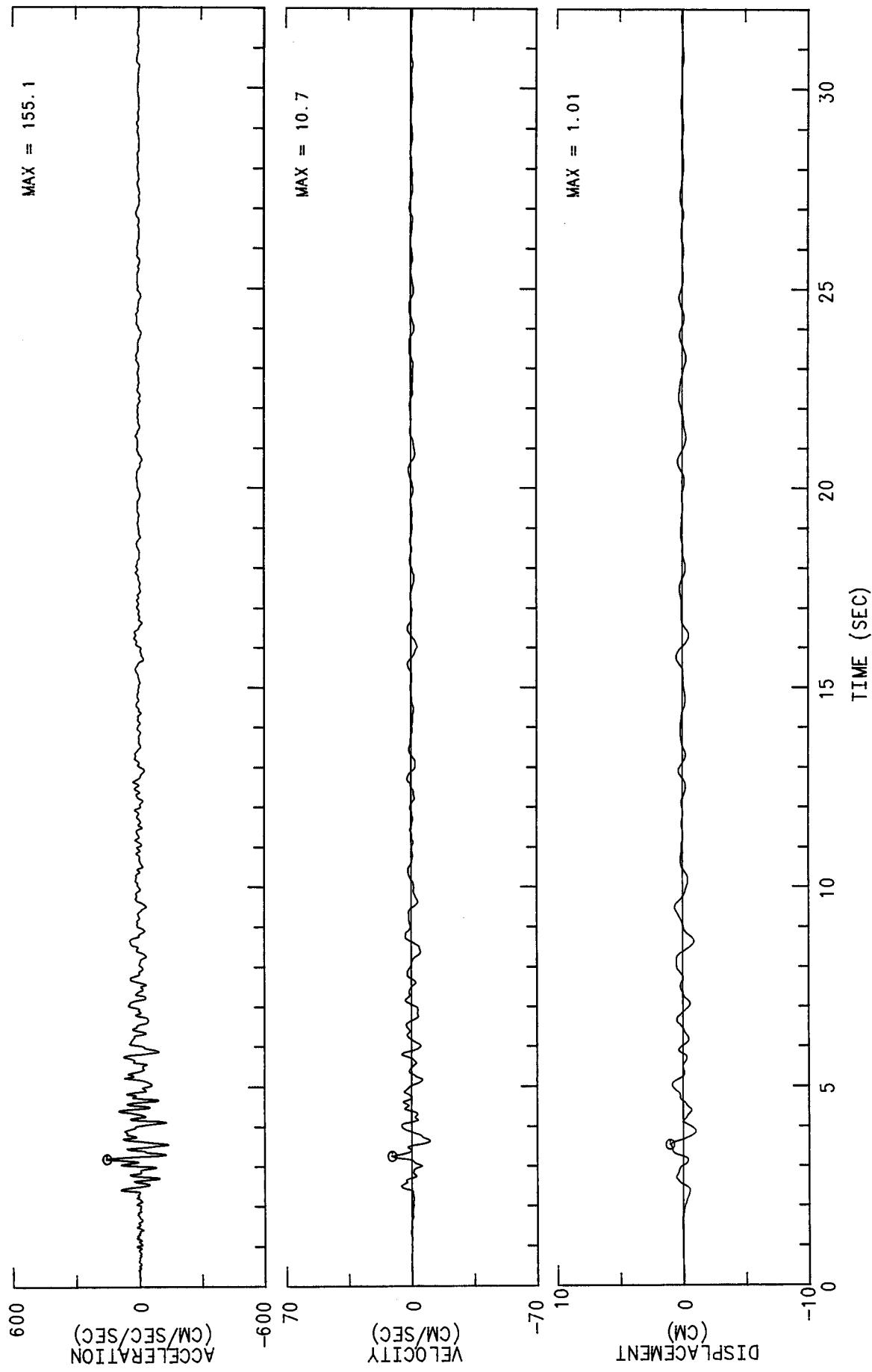
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MILLIKAN LIBRARY CHN 8: 360 DEG (BASEMENT, AT NORTH WALL)
 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH MILLIKAN LIBRARY CHN 9: UP (BASEMENT, AT NORTH WALL)
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045

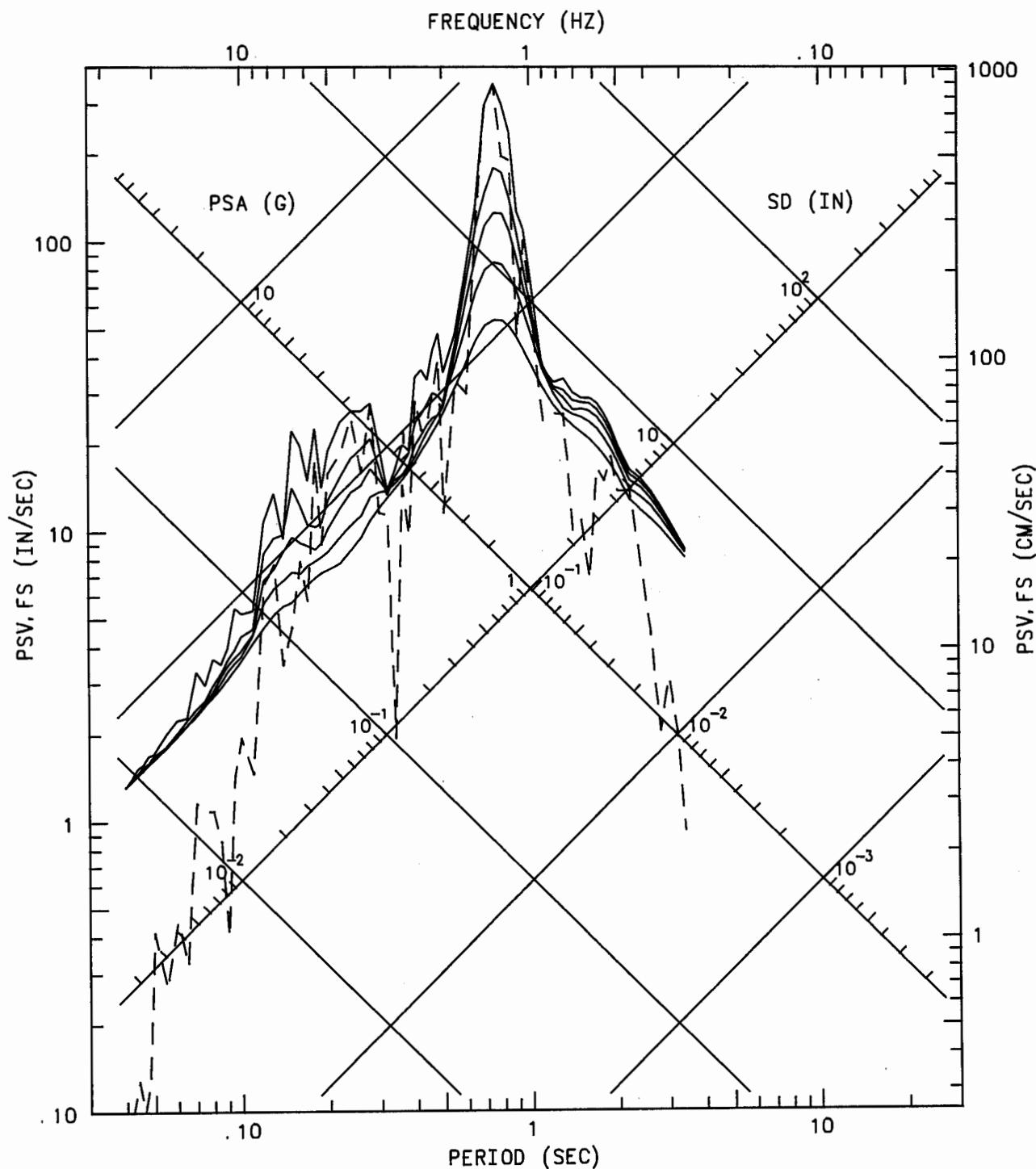


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 PASADENA - CALTECH MILLIKAN LIBRARY CHN 10: 90 DEG (BASEMENT, AT NORTH WALL)
 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80045-C0146-87000.03 090789.1149-QW87A045



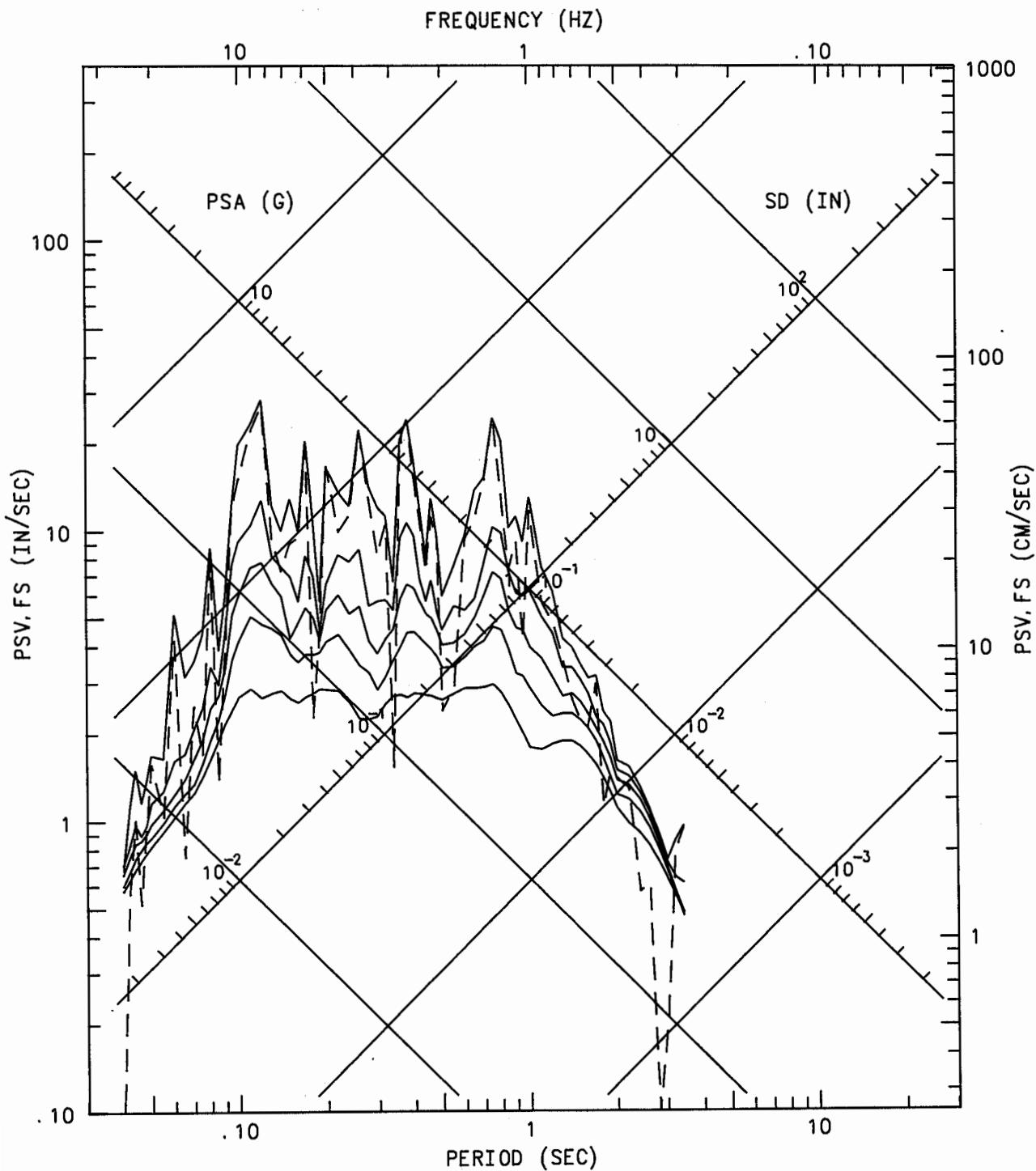
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 1: 360 DEG (ROOF, AT WEST END)
 ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80045-C0146-87000.03 090789.1223-QW87A045

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 2: UP (ROOF, AT WEST END)
 ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80045-C0146-87000.03 090789.1223-QW87A045

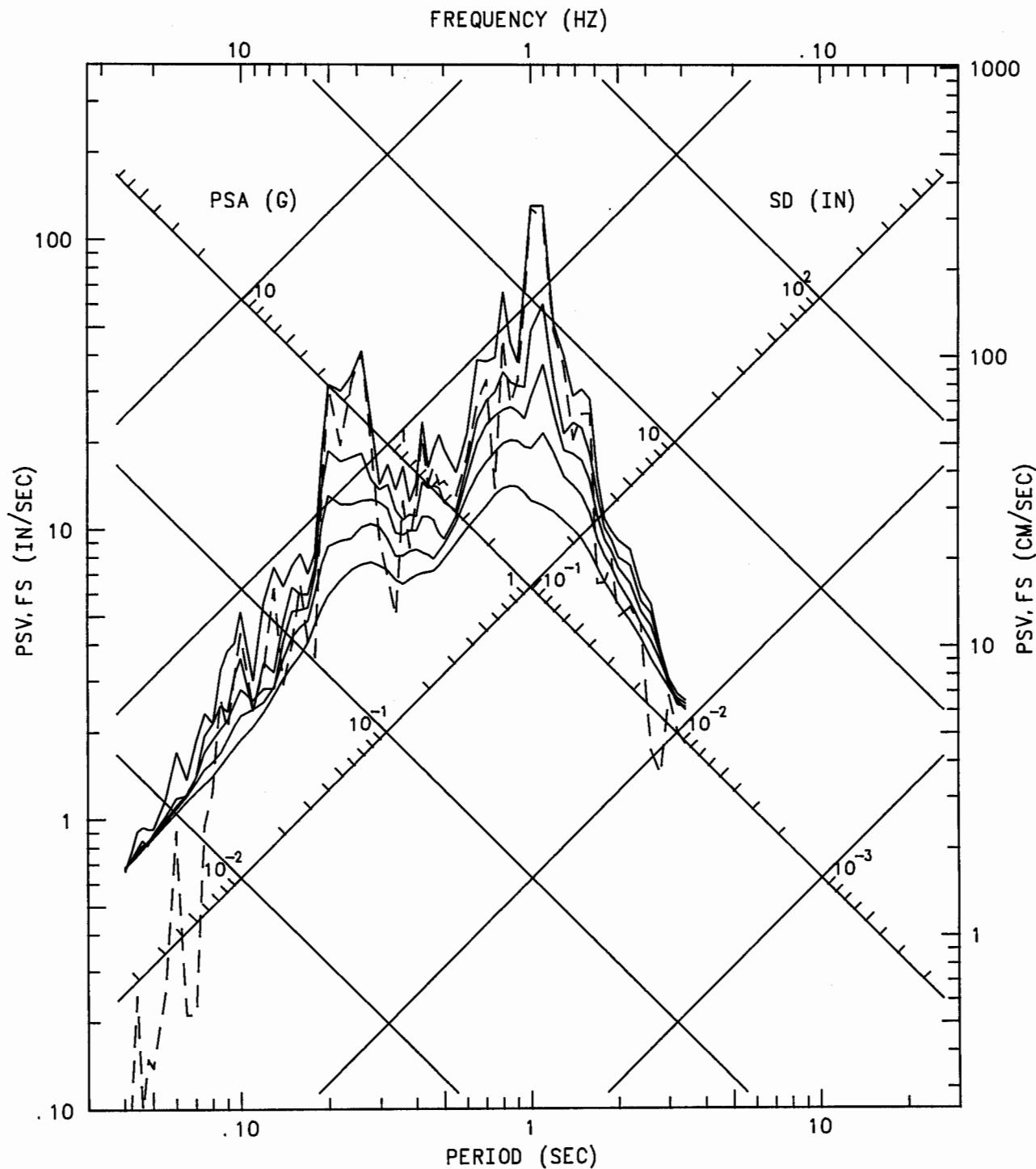
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 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 3: 90 DEG (ROOF, AT WEST END)

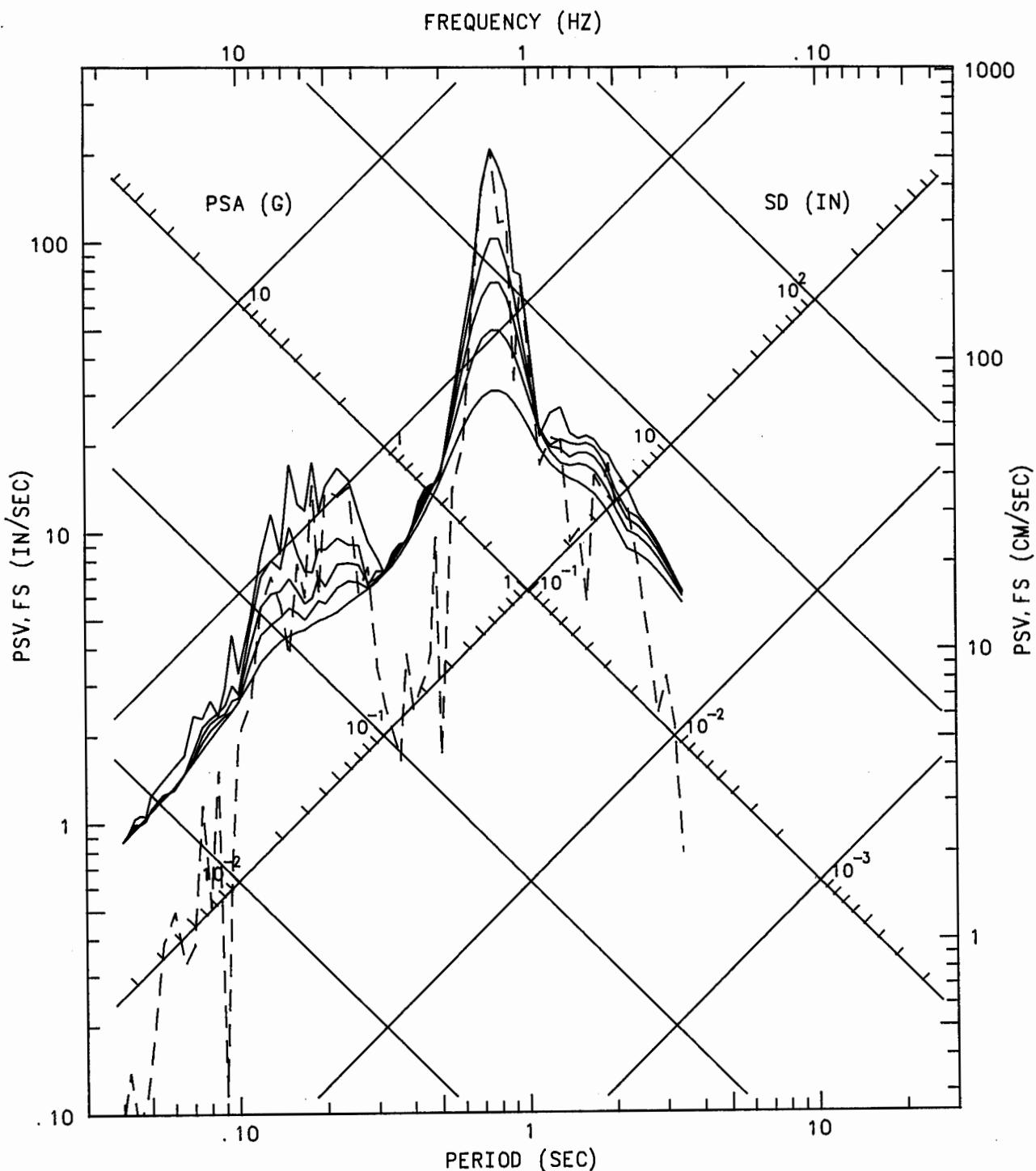
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80045-C0146-87000.03 090789.1223-QW87A045

— RESPONSE SPECTRA: PSV, PSA & SD —— FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



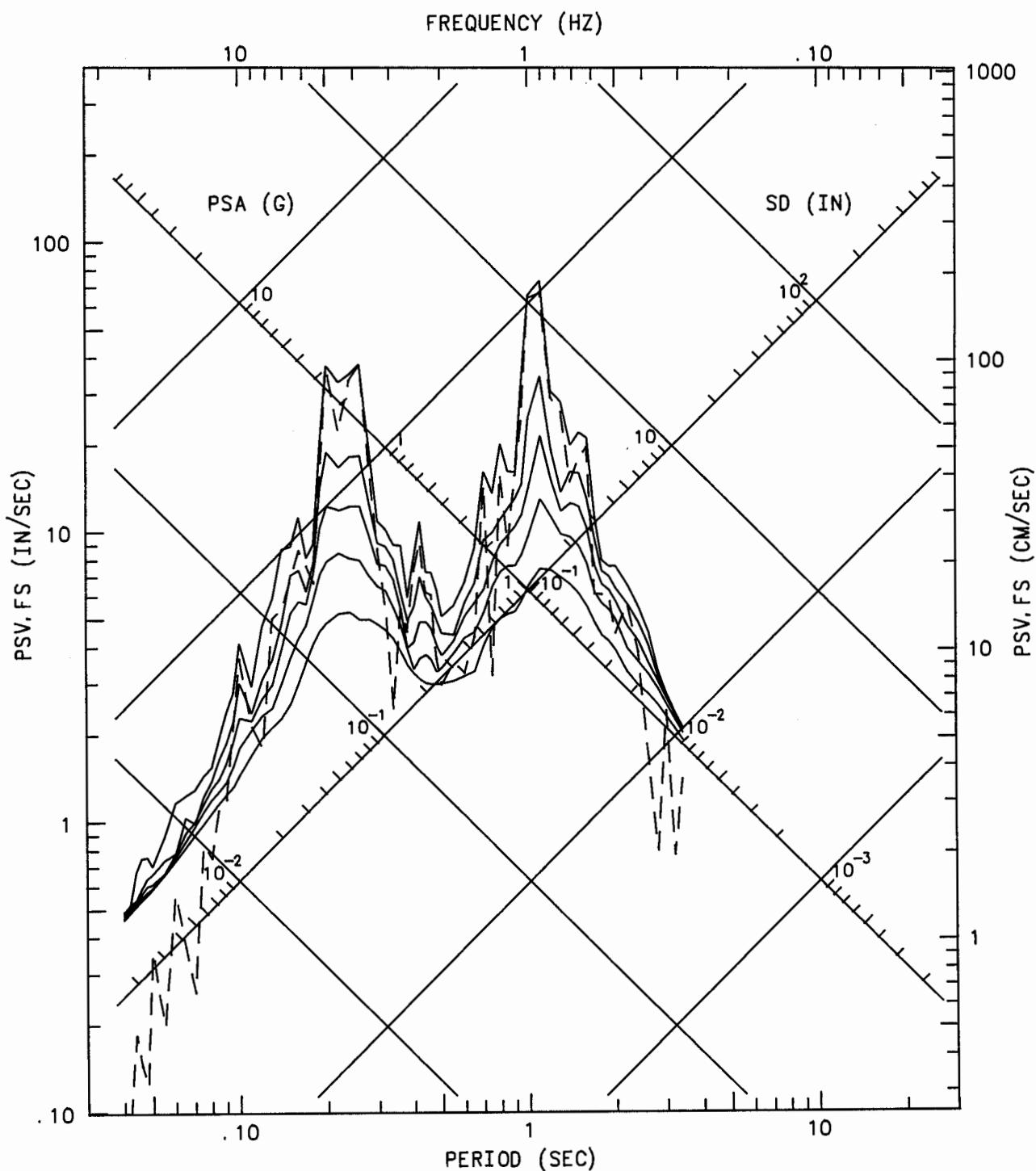
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PASADENA - CALTECH MILLIKAN LIBRARY
CHN 4: 360 DEG (6TH FLOOR, AT WEST END)
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80045-C0146-87000.03 090789.1223-QW87A045

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



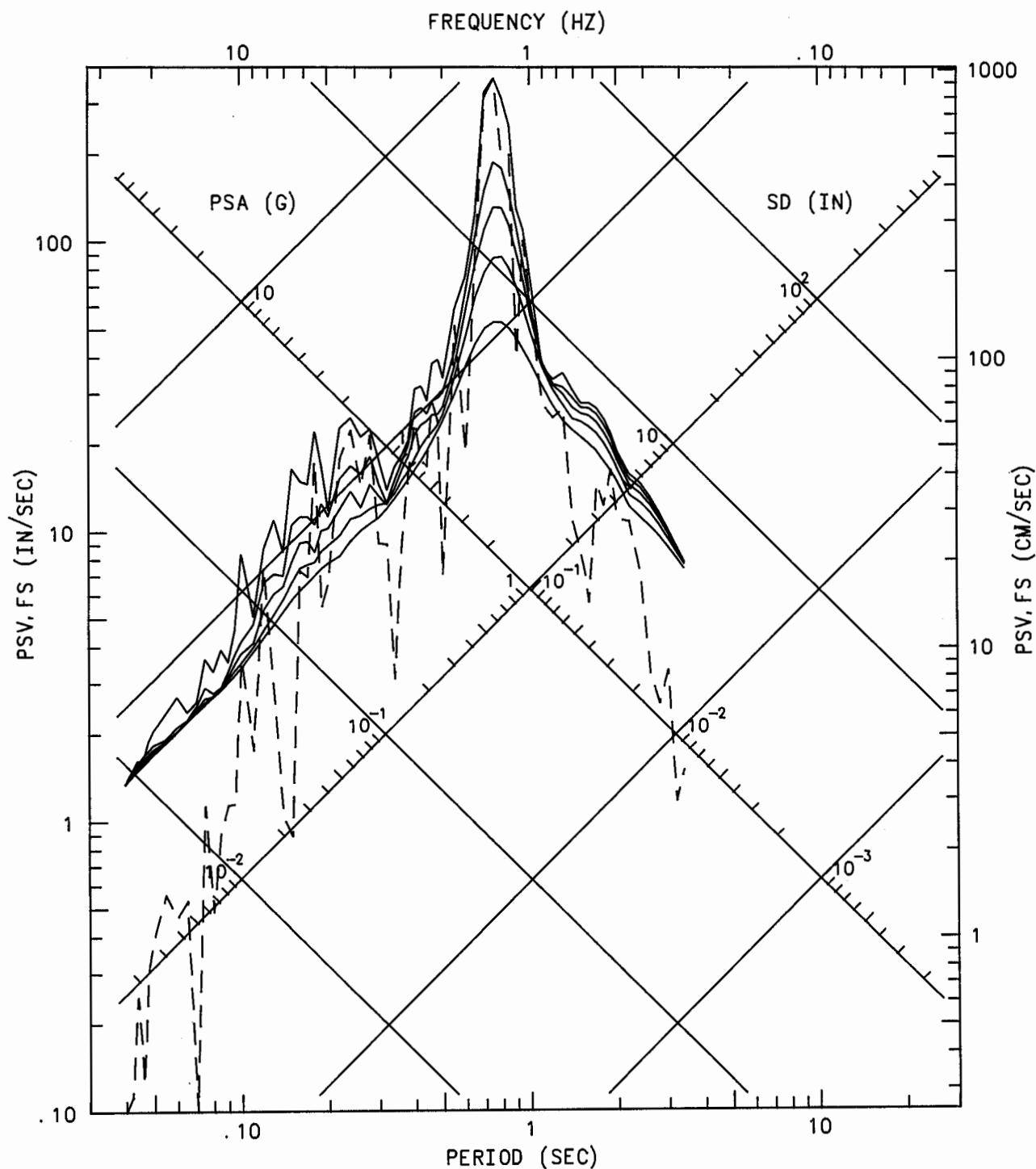
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 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 5: 90 DEG (6TH FLOOR, AT WEST END)
 ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
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 DAMPING VALUES: 0, 2, 5, 10, 20%



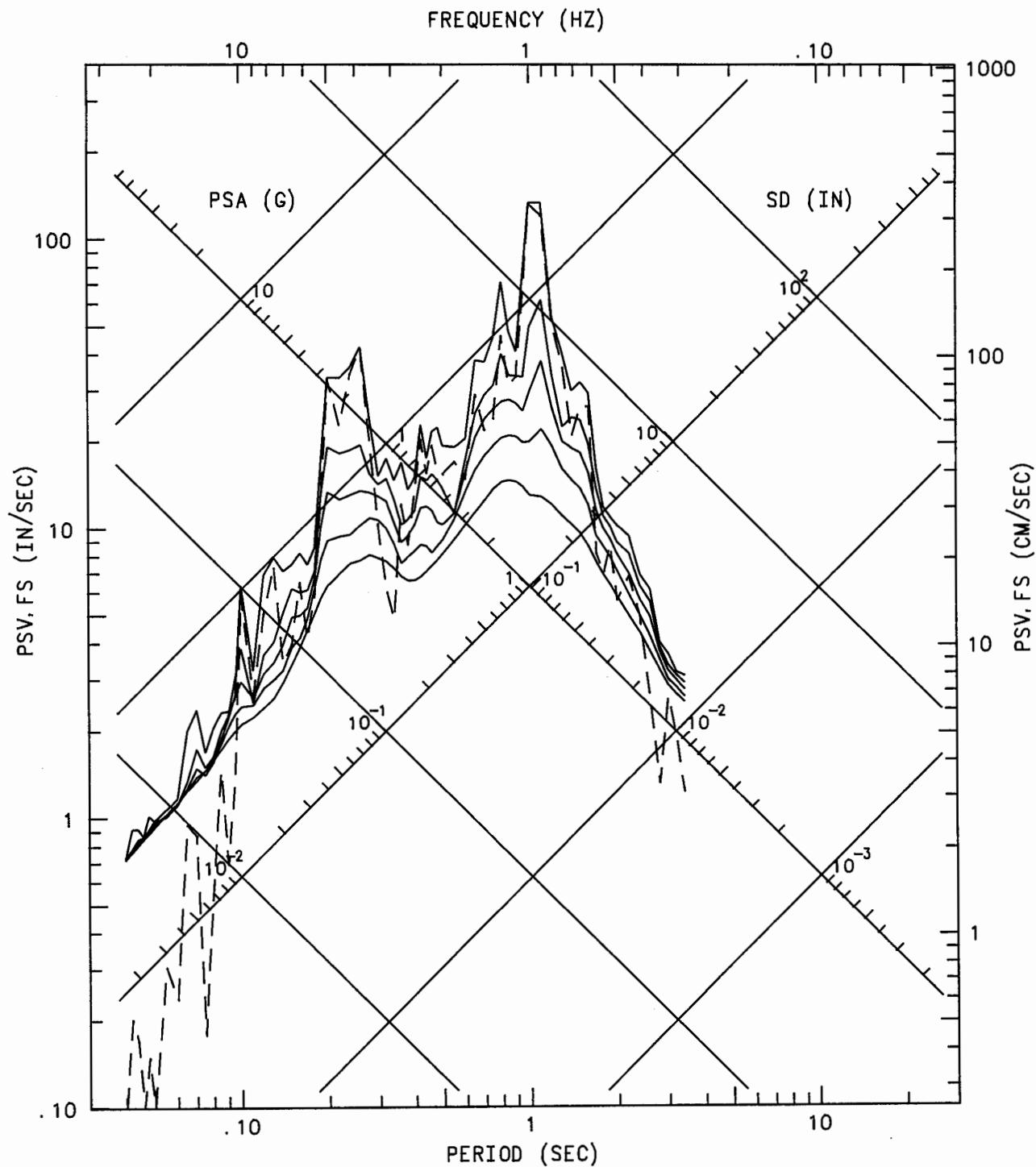
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PASADENA - CALTECH MILLIKAN LIBRARY
CHN 6: 360 DEG (ROOF, AT EAST END)
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
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DAMPING VALUES: 0, 2, 5, 10, 20%



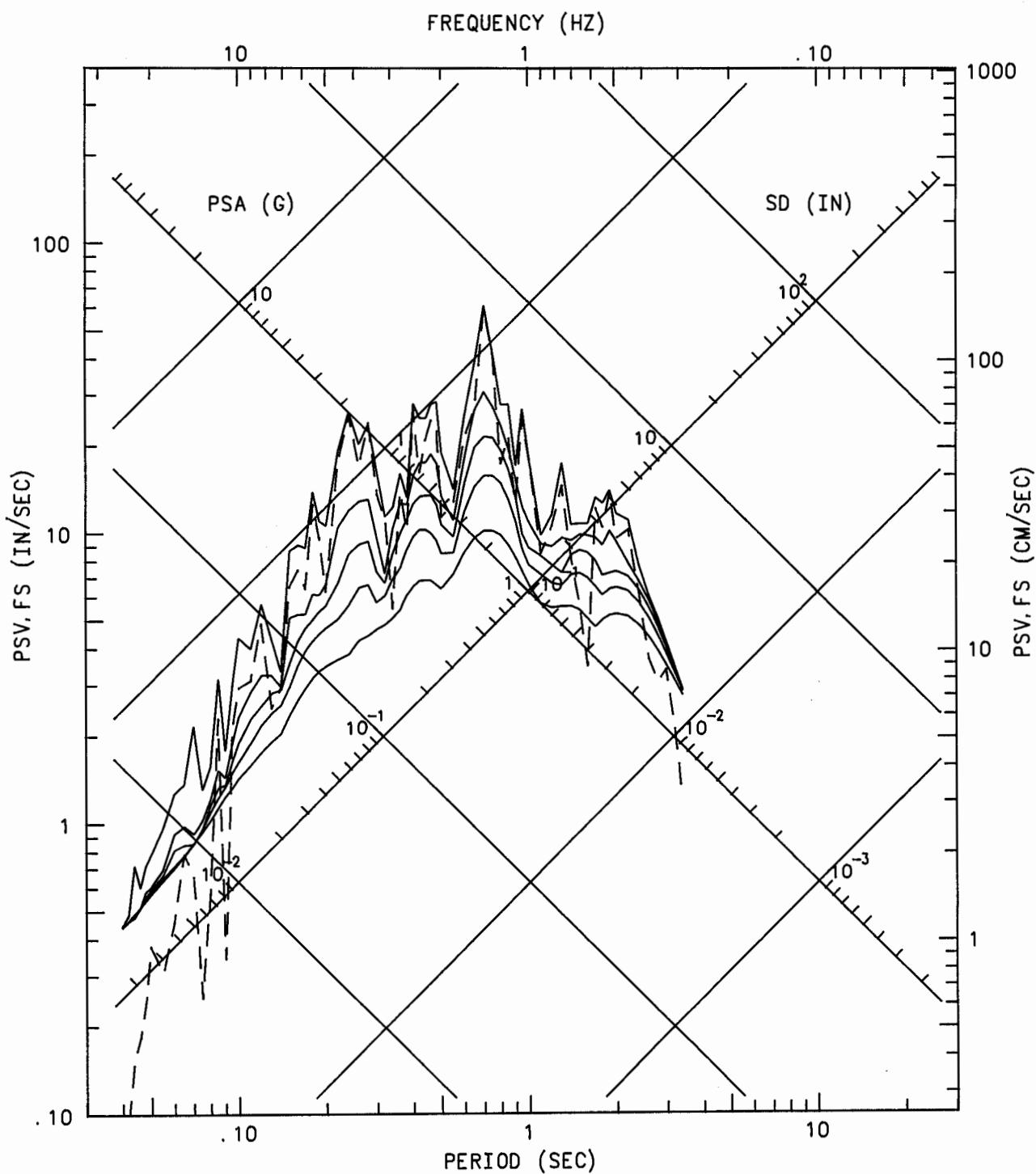
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 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 7: 90 DEG (ROOF, AT EAST END)
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
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— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



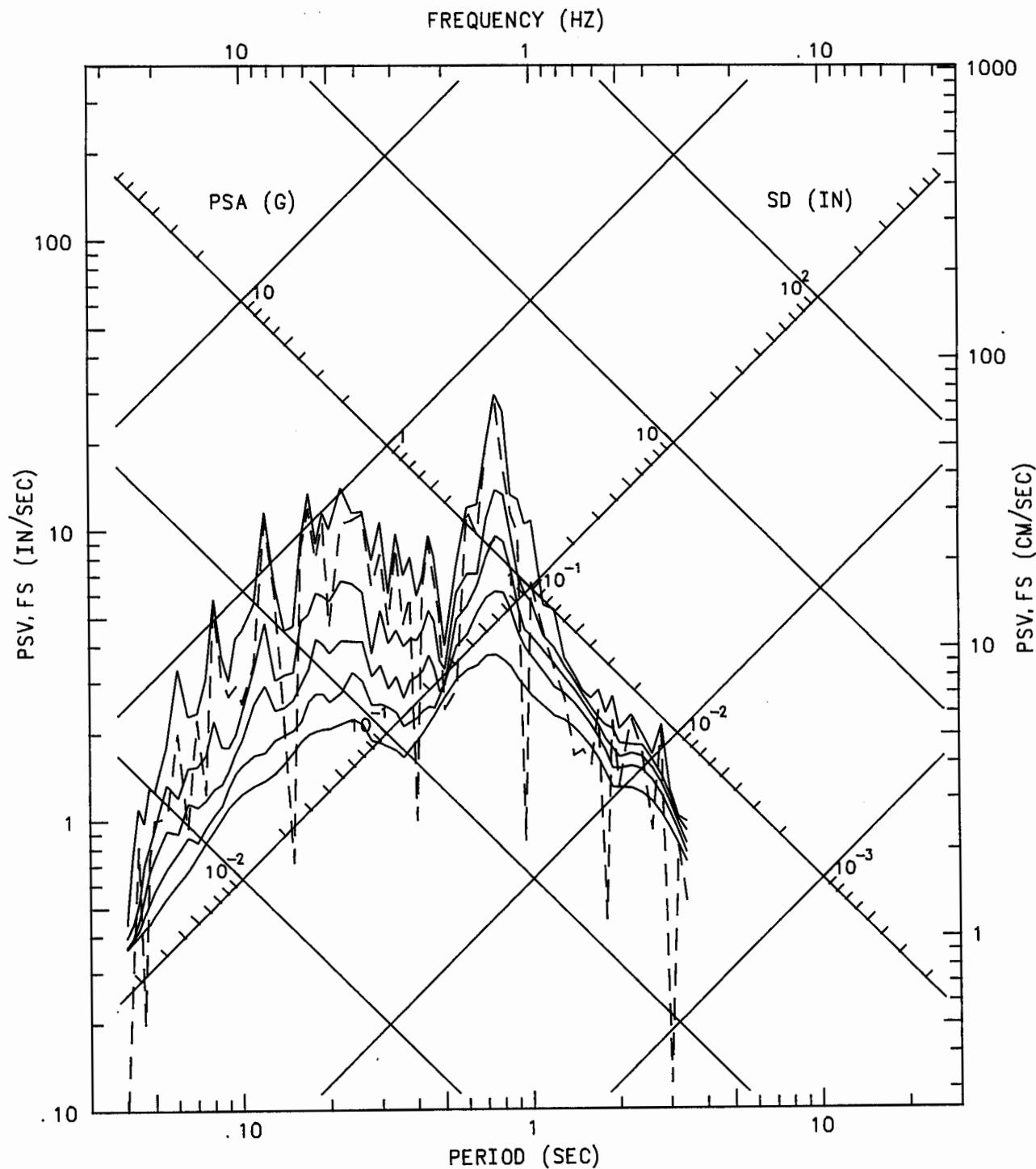
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 8: 360 DEG (BASEMENT, AT NORTH WALL)
 ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
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— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



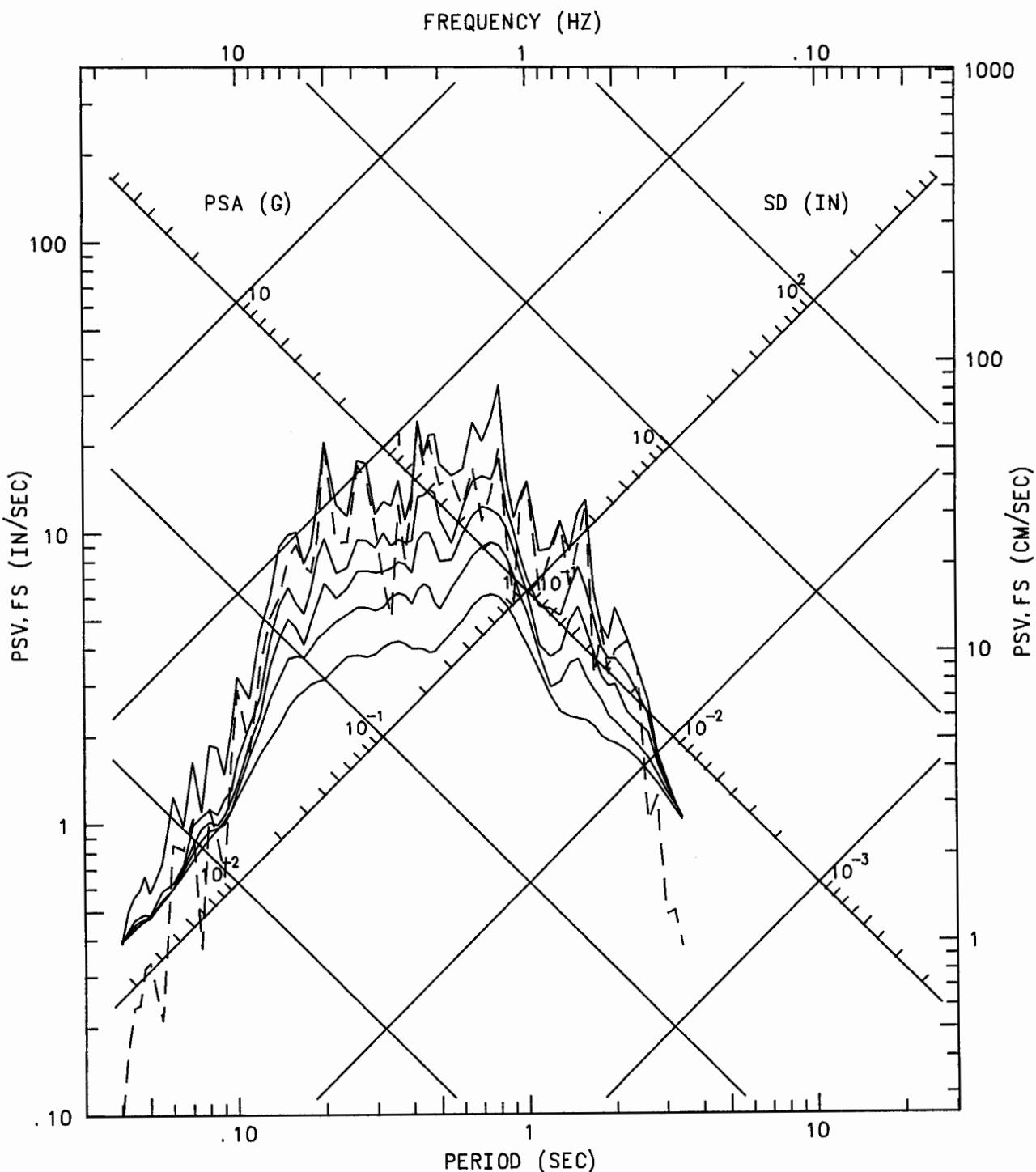
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MILLIKAN LIBRARY
 CHN 9: UP (BASEMENT, AT NORTH WALL)
 ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
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 DAMPING VALUES: 0, 2, 5, 10, 20%

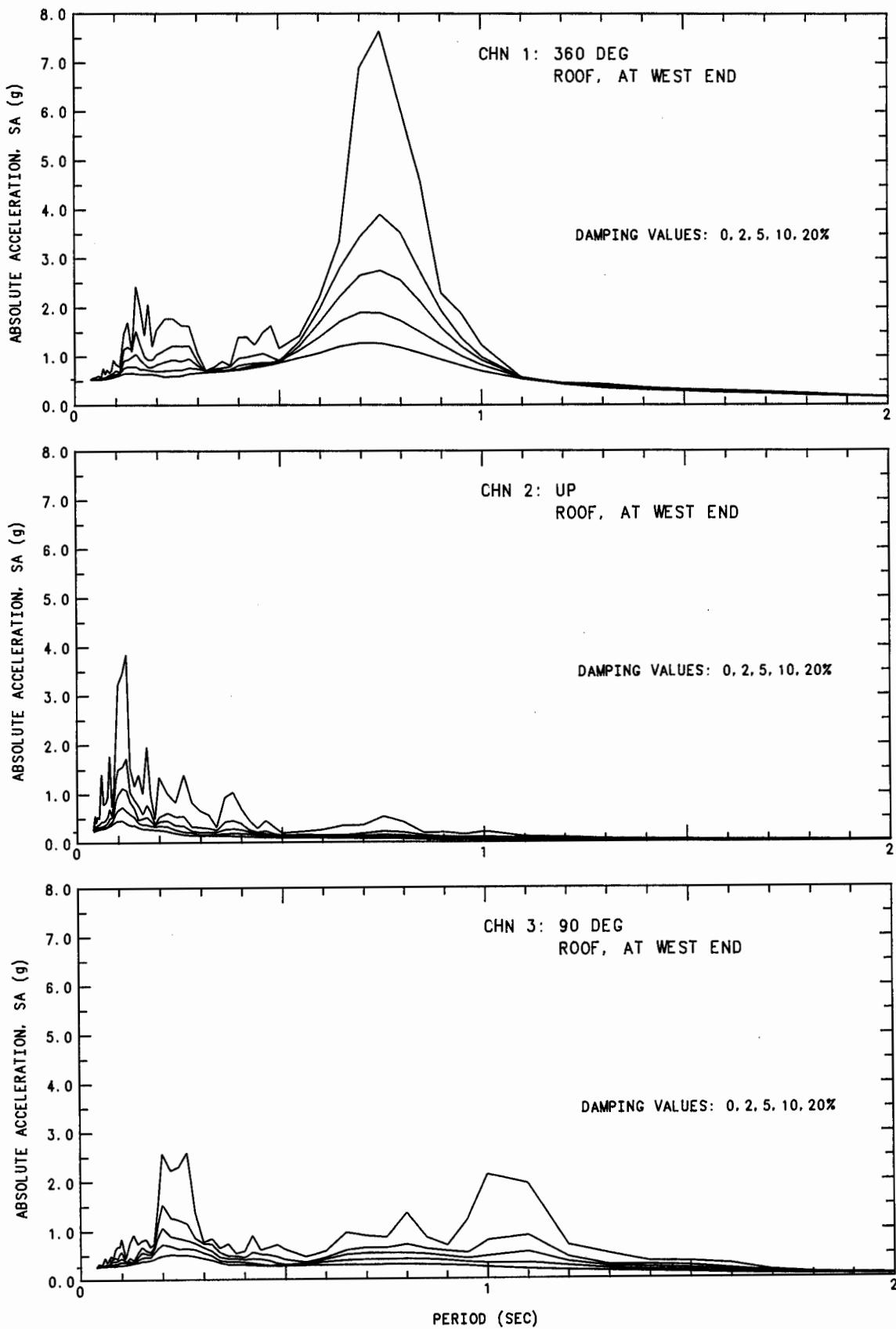


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MILLIKAN LIBRARY
CHN 10: 90 DEG (BASEMENT, AT NORTH WALL)
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
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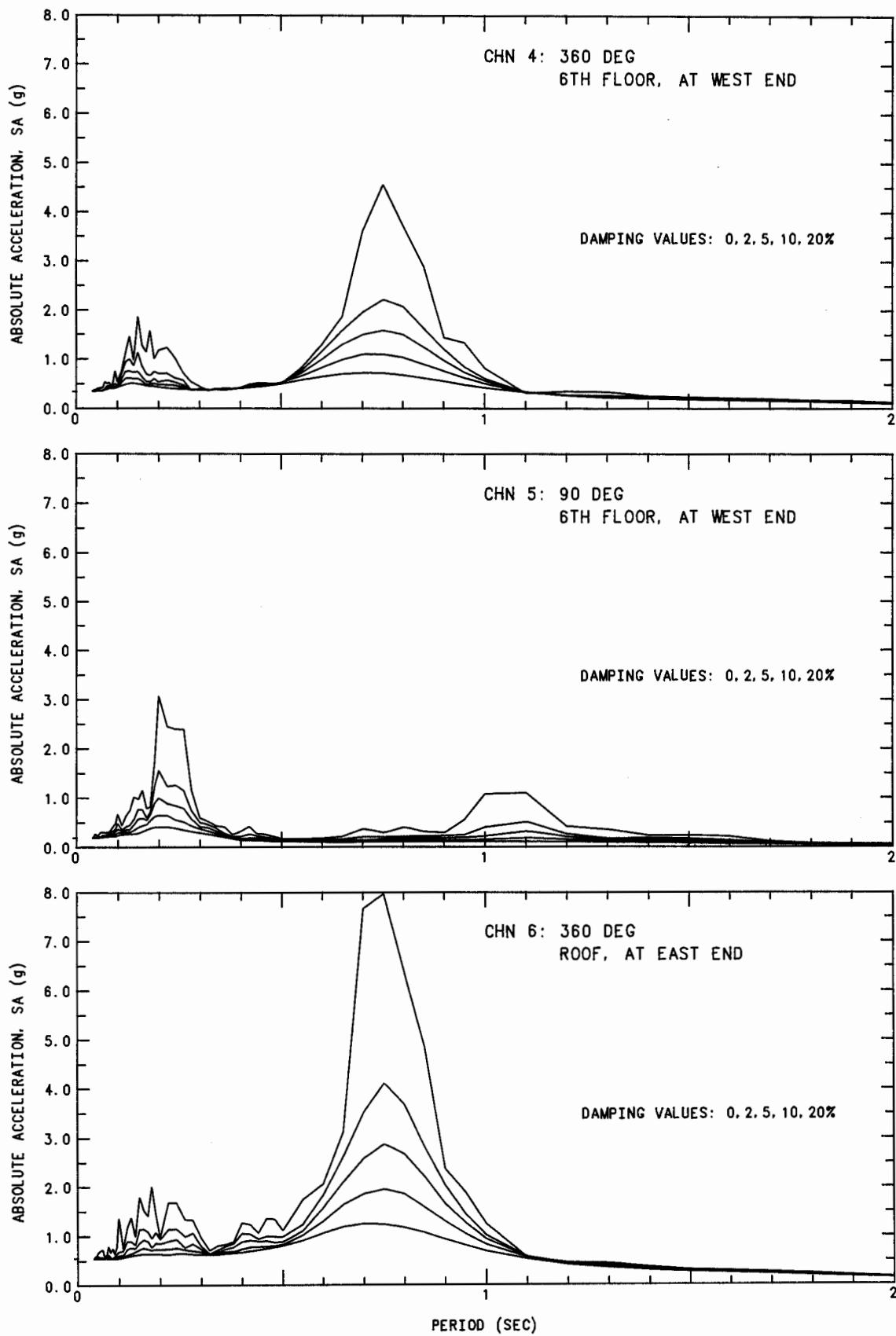
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DAMPING VALUES: 0, 2, 5, 10, 20%



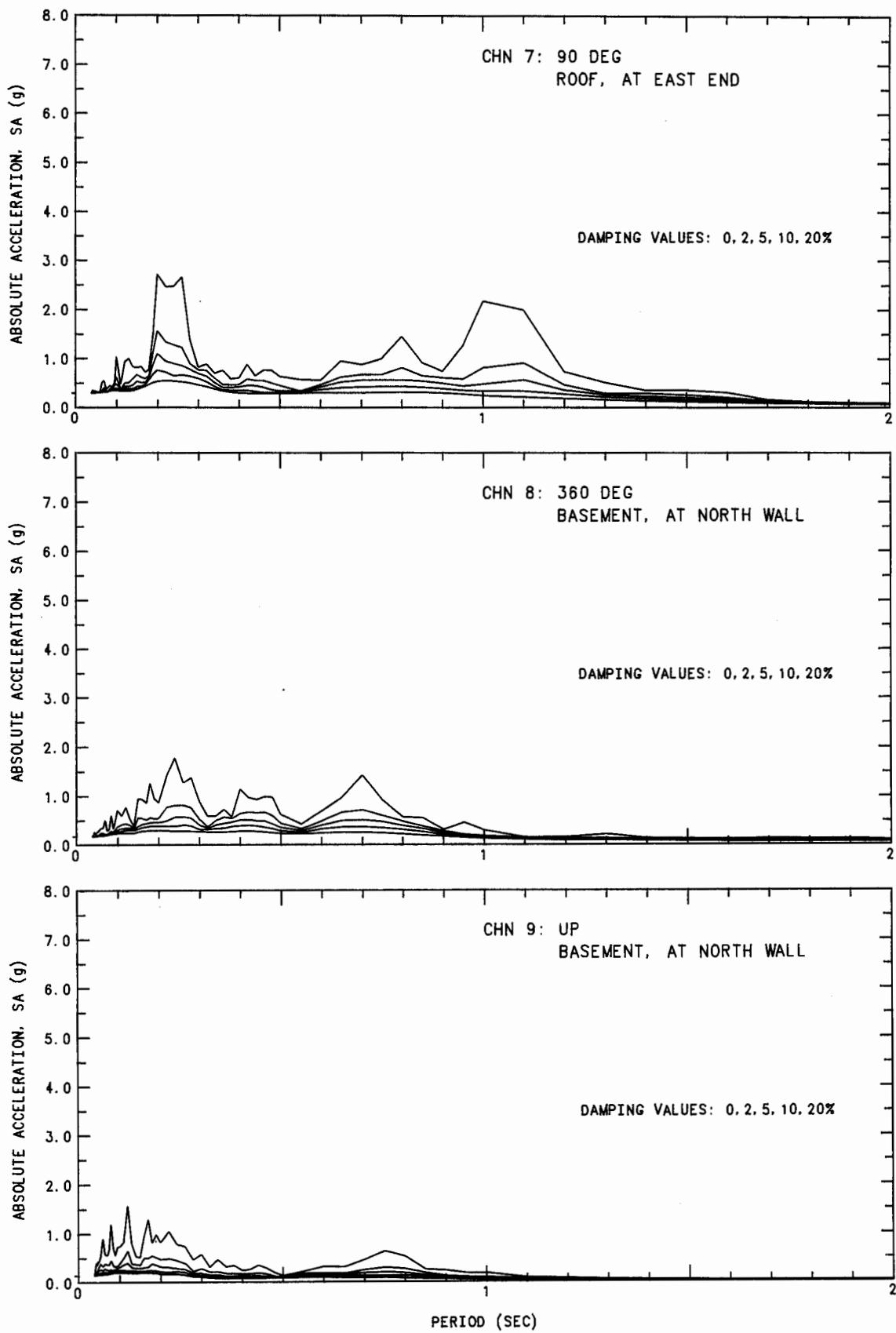
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PASADENA - CALTECH MILLIKAN LIBRARY
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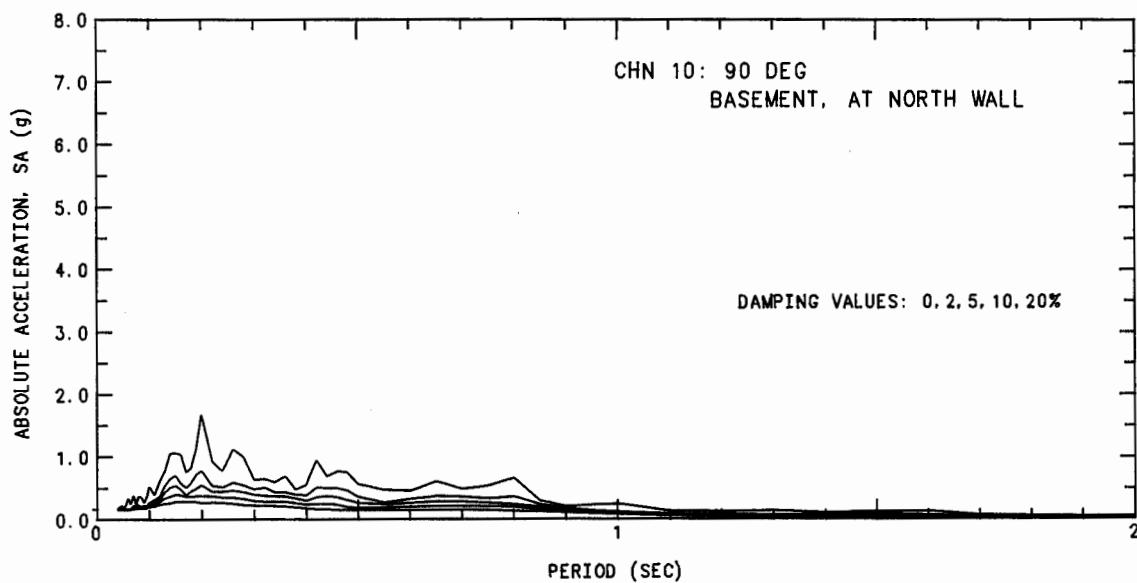
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MILLIKAN LIBRARY
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
80045-C0146-87000.03 090789.1223-QW87A045



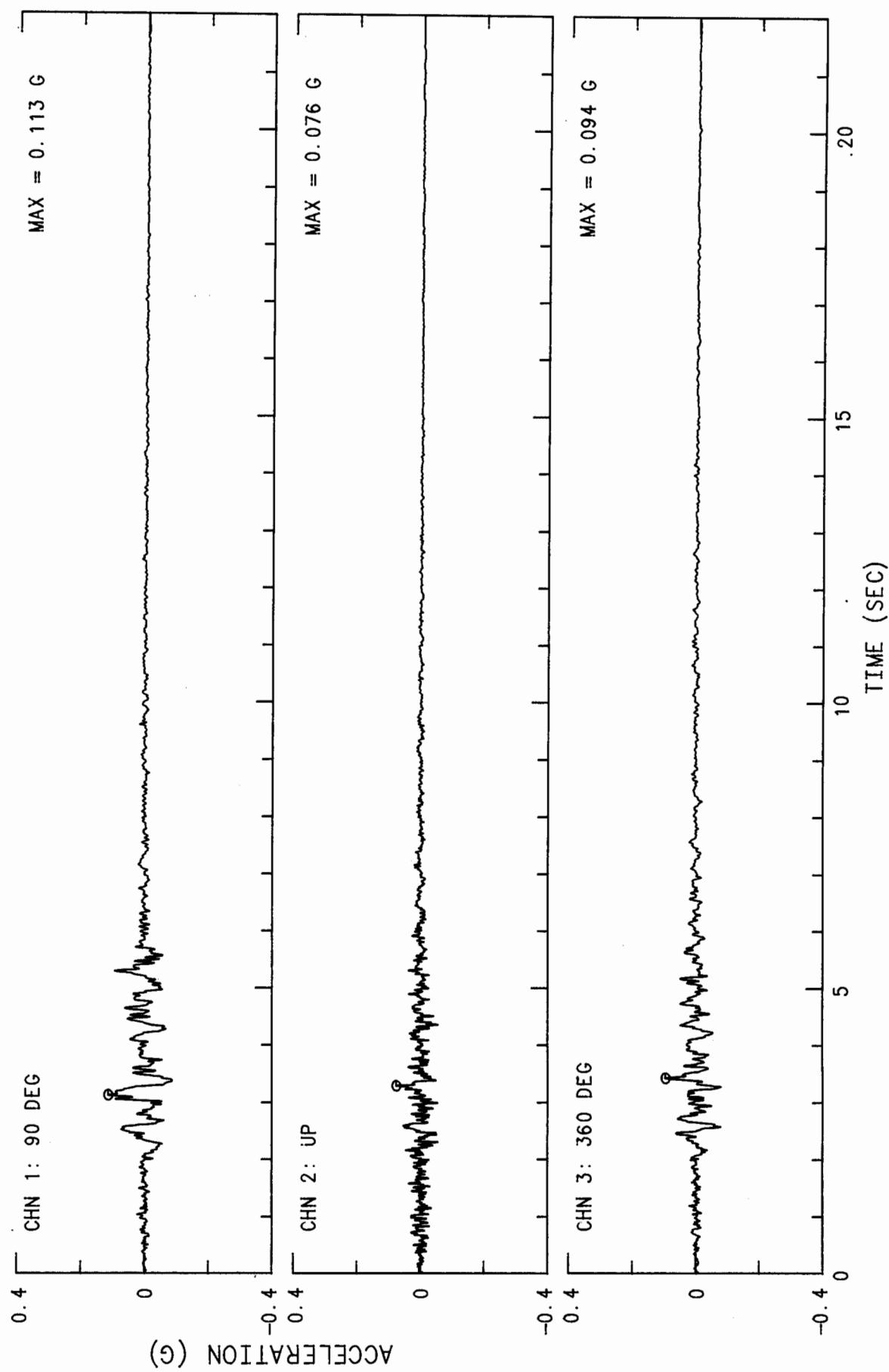
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MILLIKAN LIBRARY
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80045-C0146-87000.03 090789.1223-QW87A045



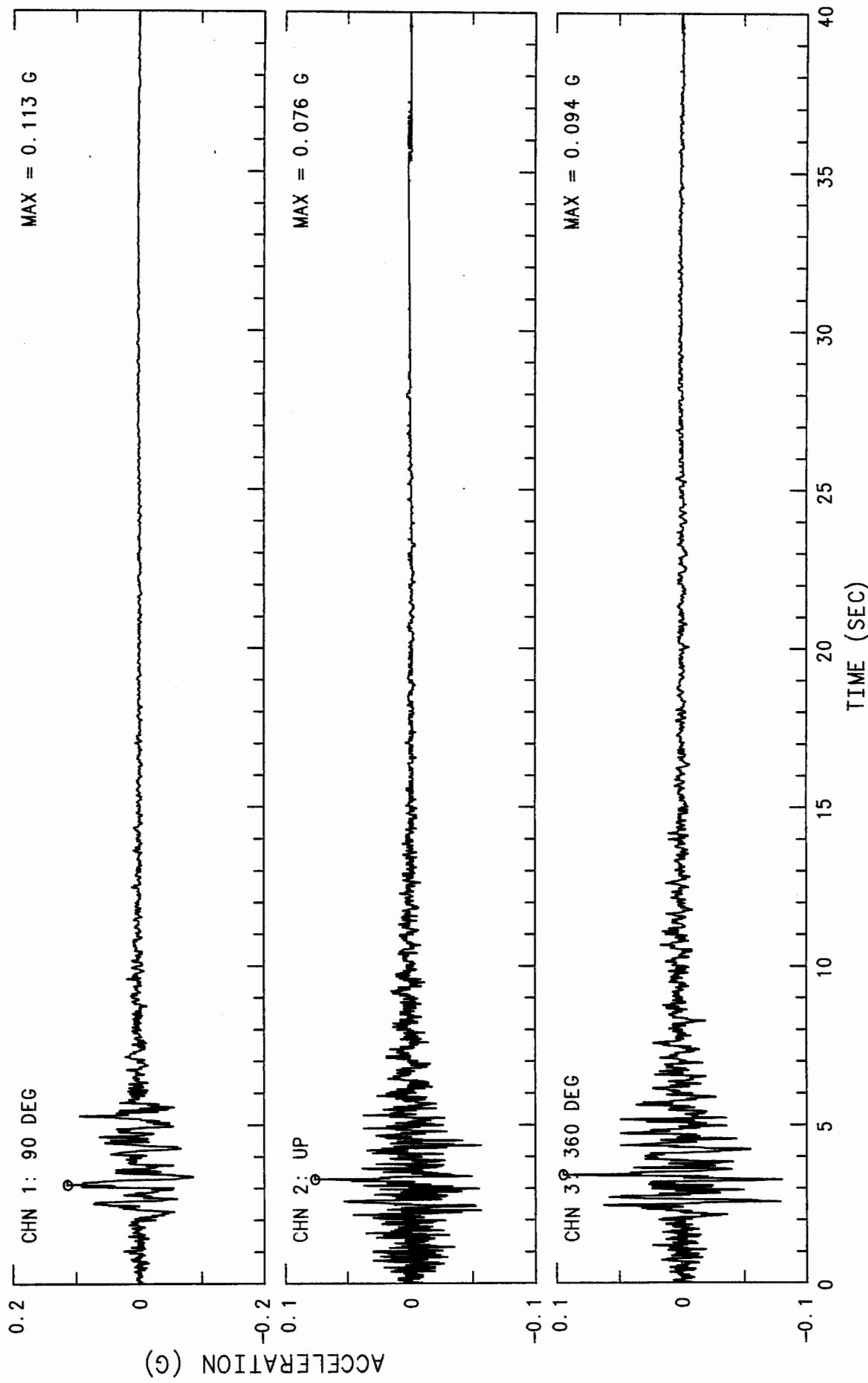
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MILLIKAN LIBRARY
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80045-C0146-87000.03 090789.1223-QW87A045



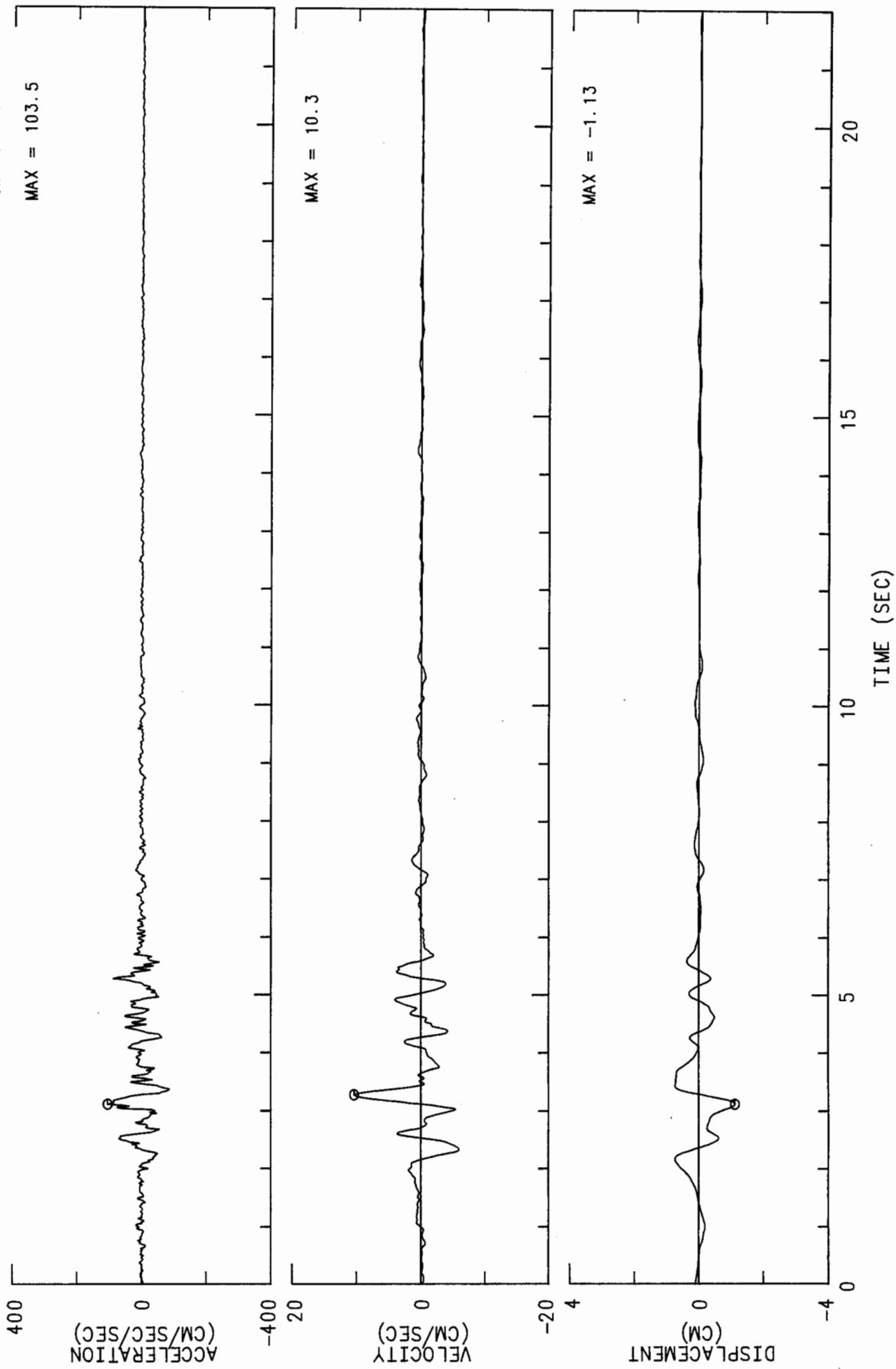
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH KRESGE SEISMO. LAB.
 UNCORRECTED ACCELERGRAM 80054-S3000-88000.02.1 042789.1043-QW87A054



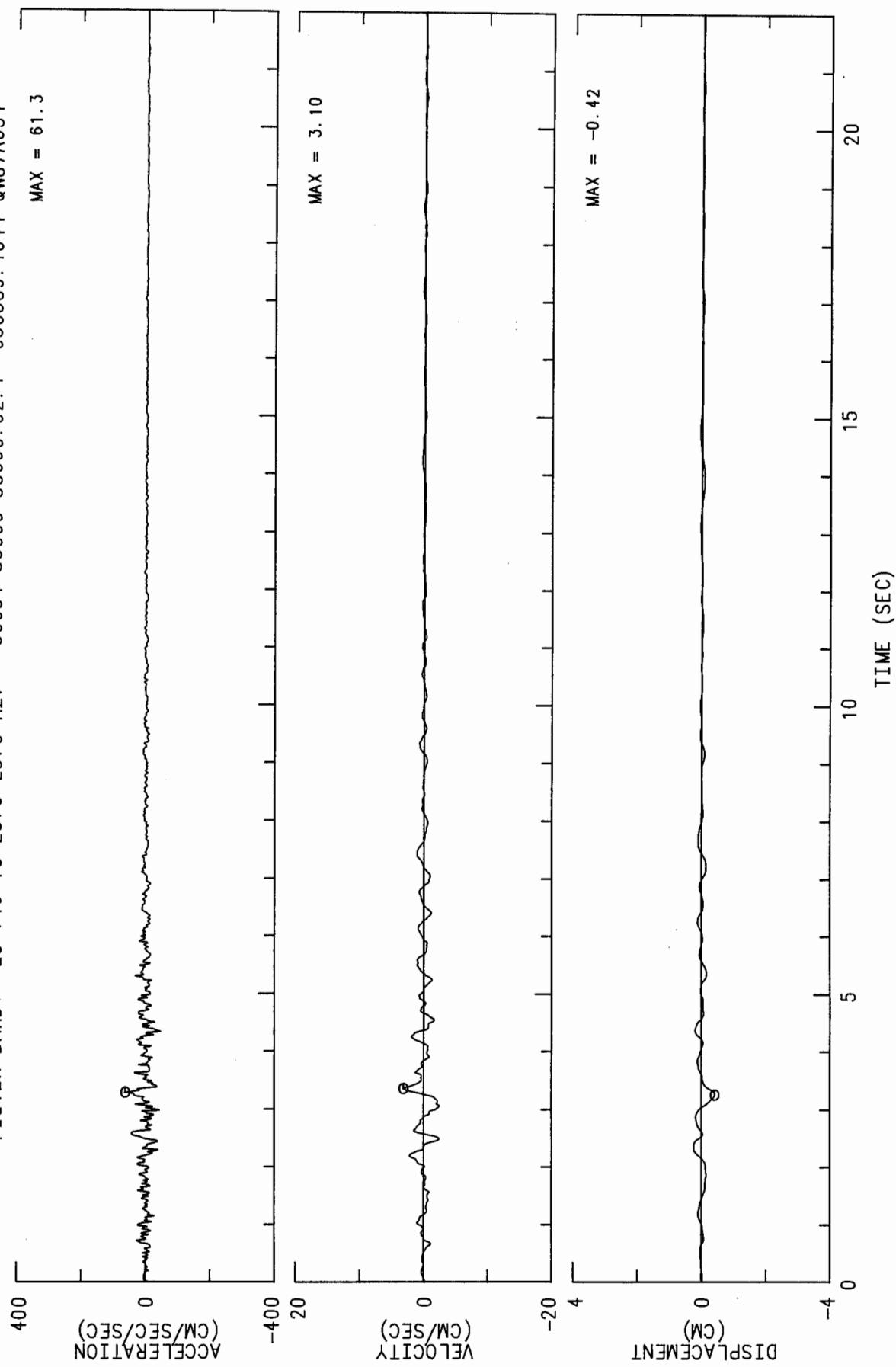
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KRESGE SEISMO. LAB.
UNCORRECTED ACCELERrogram 80054-S3000-88000.02.1 042789. 1043-QW87A054



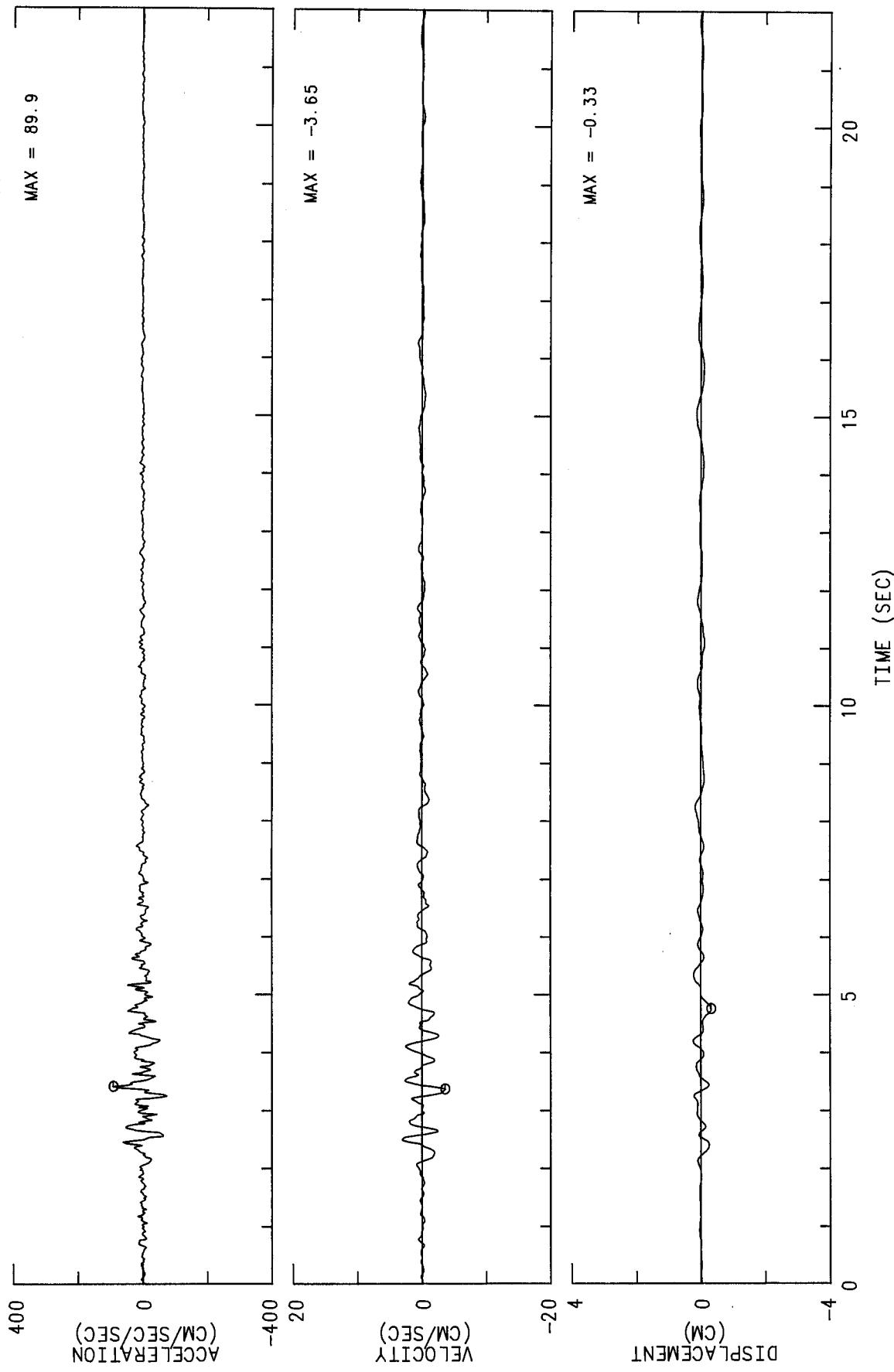
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KRESGE SEISMO. LAB. CHN 1: 90 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80054-S3000-88000.02.1 050389.1044-QW87A054



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH KRESSE SEISMO. LAB. CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 Hz. 80054-S3000-88000.02.1 050389.1044-QW87A054



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KRESGE SEISMO. LAB. CHN 3: 360 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80054-S3000-88000.02.1 050389.1044-QW87A054



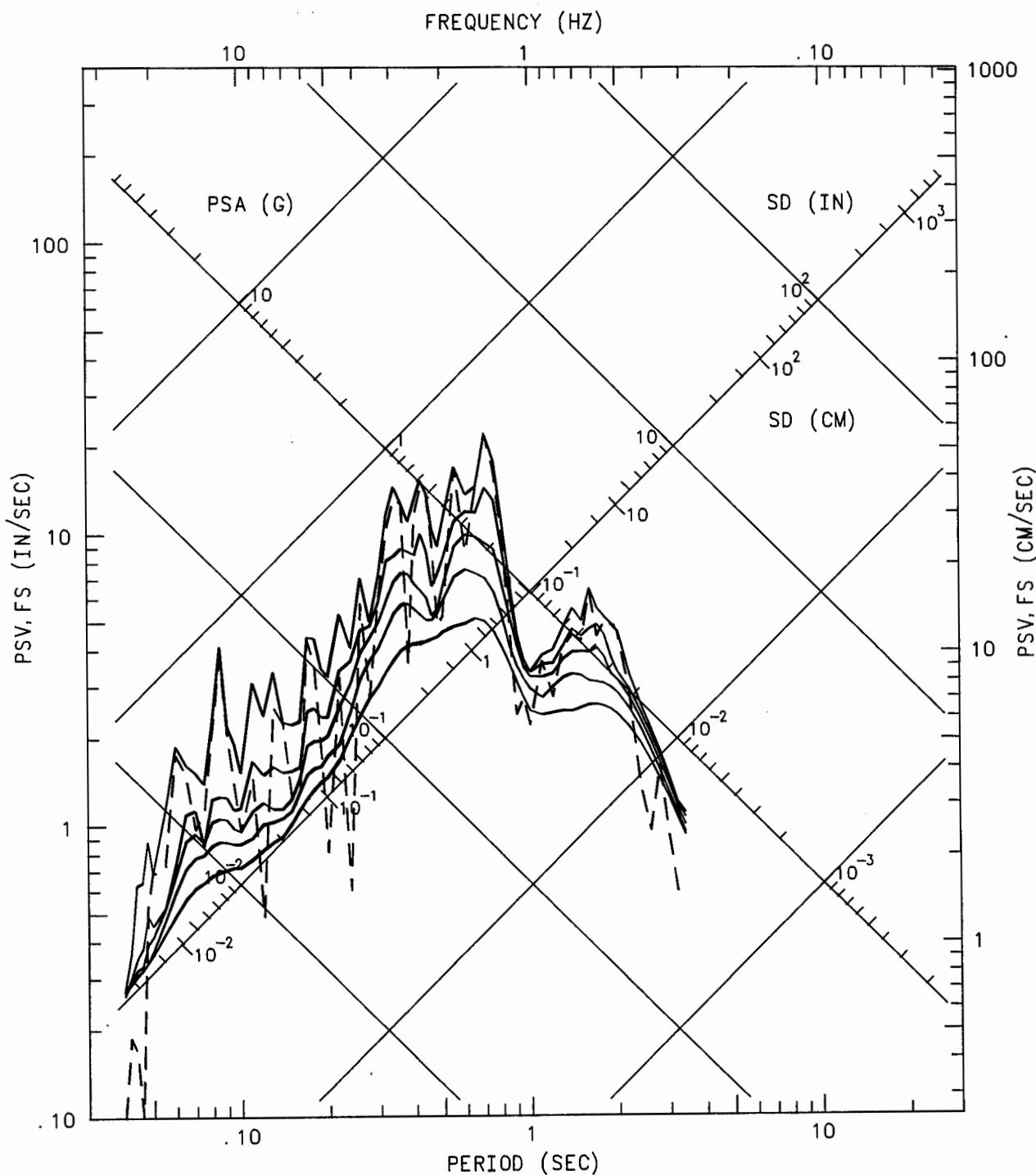
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT

PASADENA - CALTECH KRESGE SEISMO. LAB.

CHN 1: 90 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80054-S3000-88000.02.1 060189.1020-QW87A054

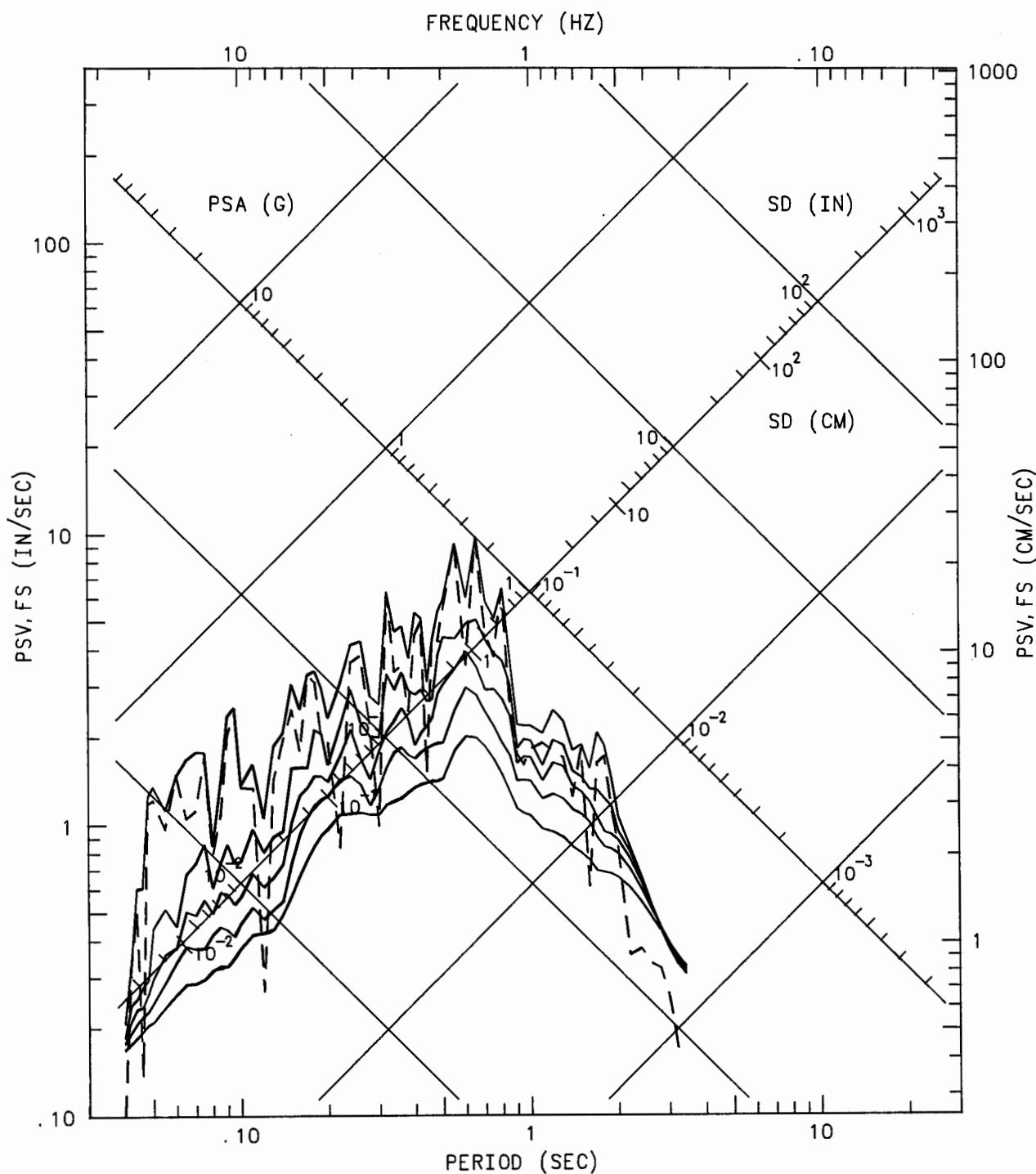
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KRESGE SEISMO. LAB.
CHN 2: UP

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80054-S3000-88000.02.1 060189.1020-QW87A054

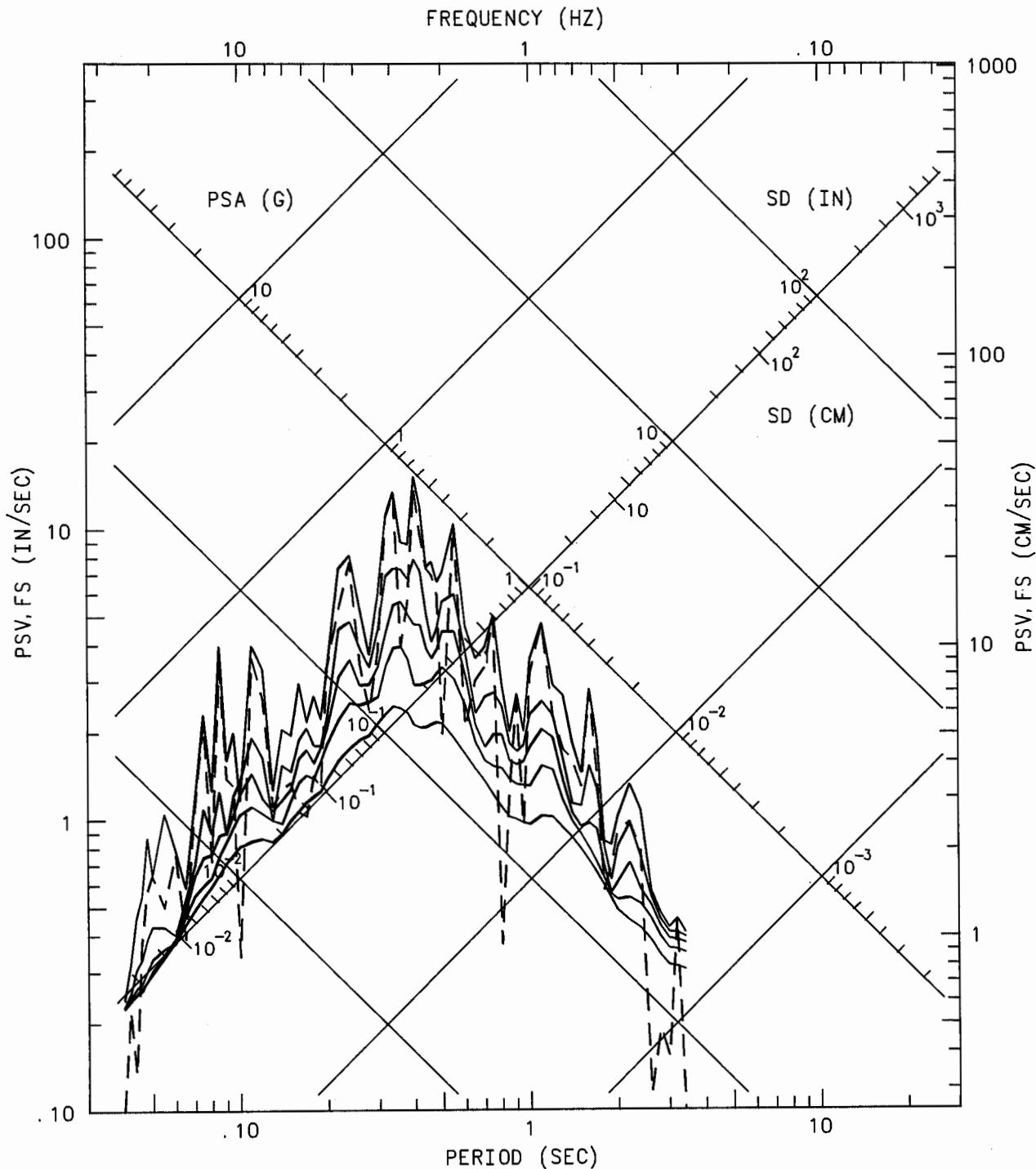
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



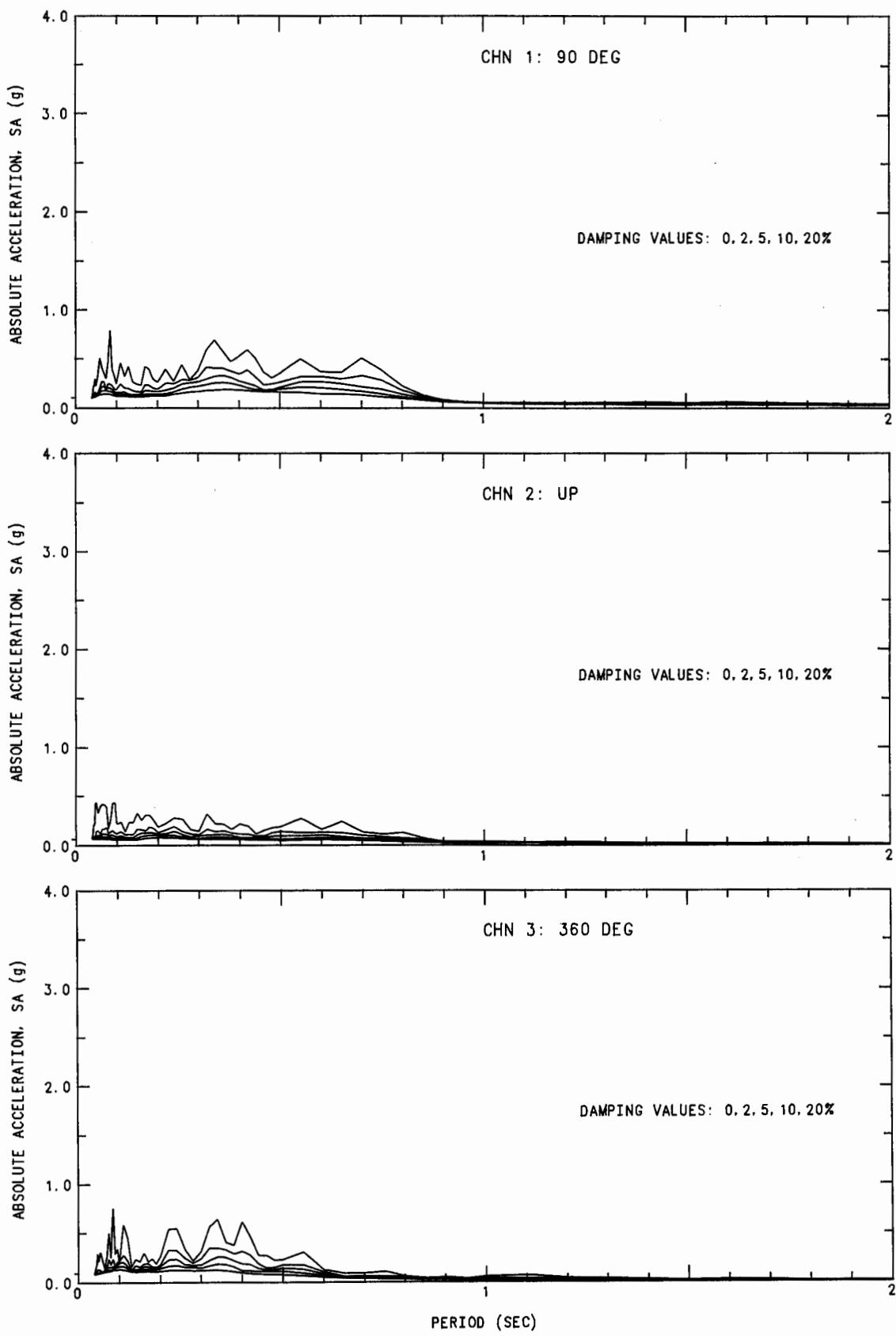
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KRESGE SEISMO. LAB.
CHN 3: 360 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80054-S3000-88000.02.1 060189.1020-QW87A054

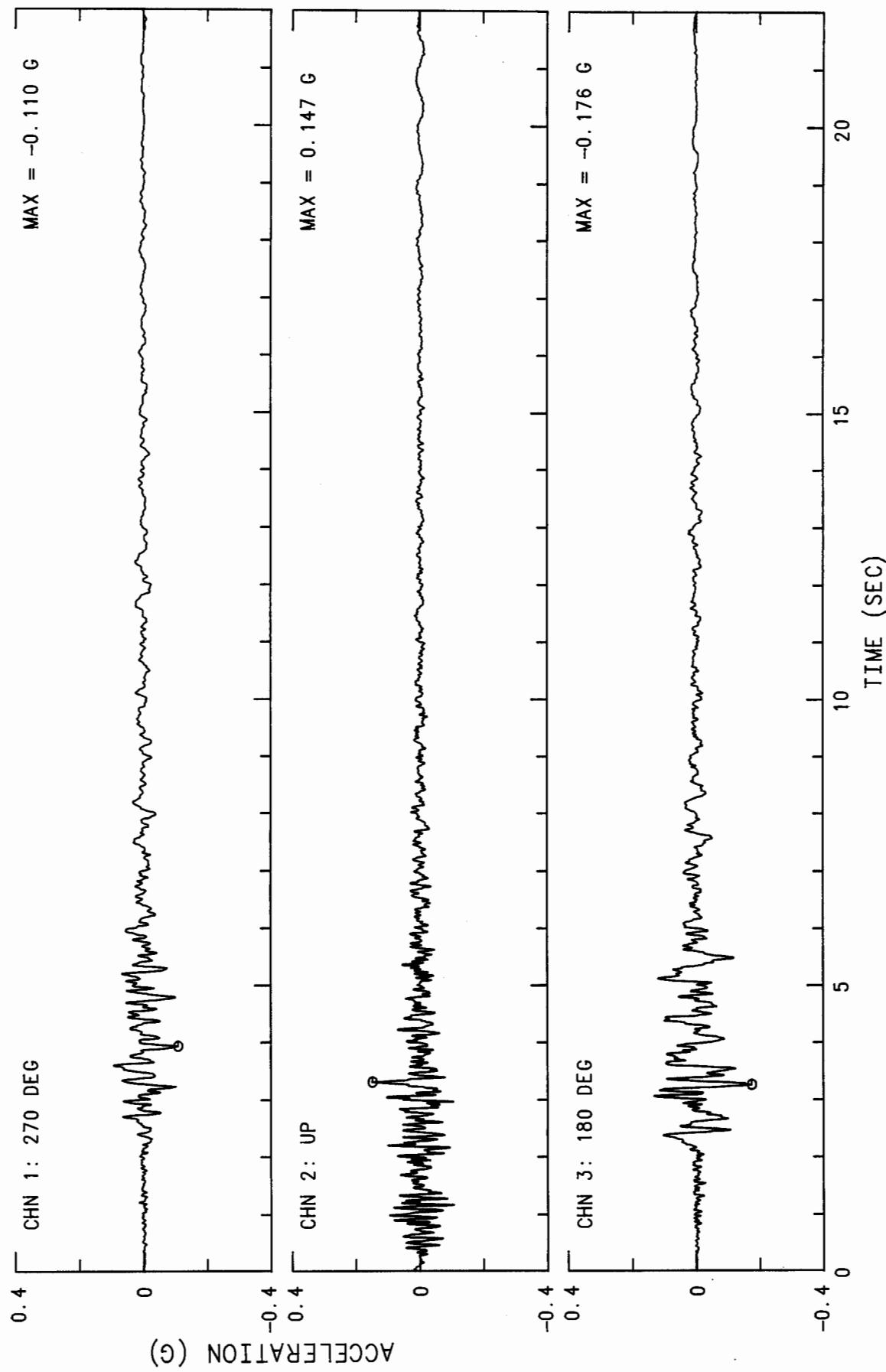
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



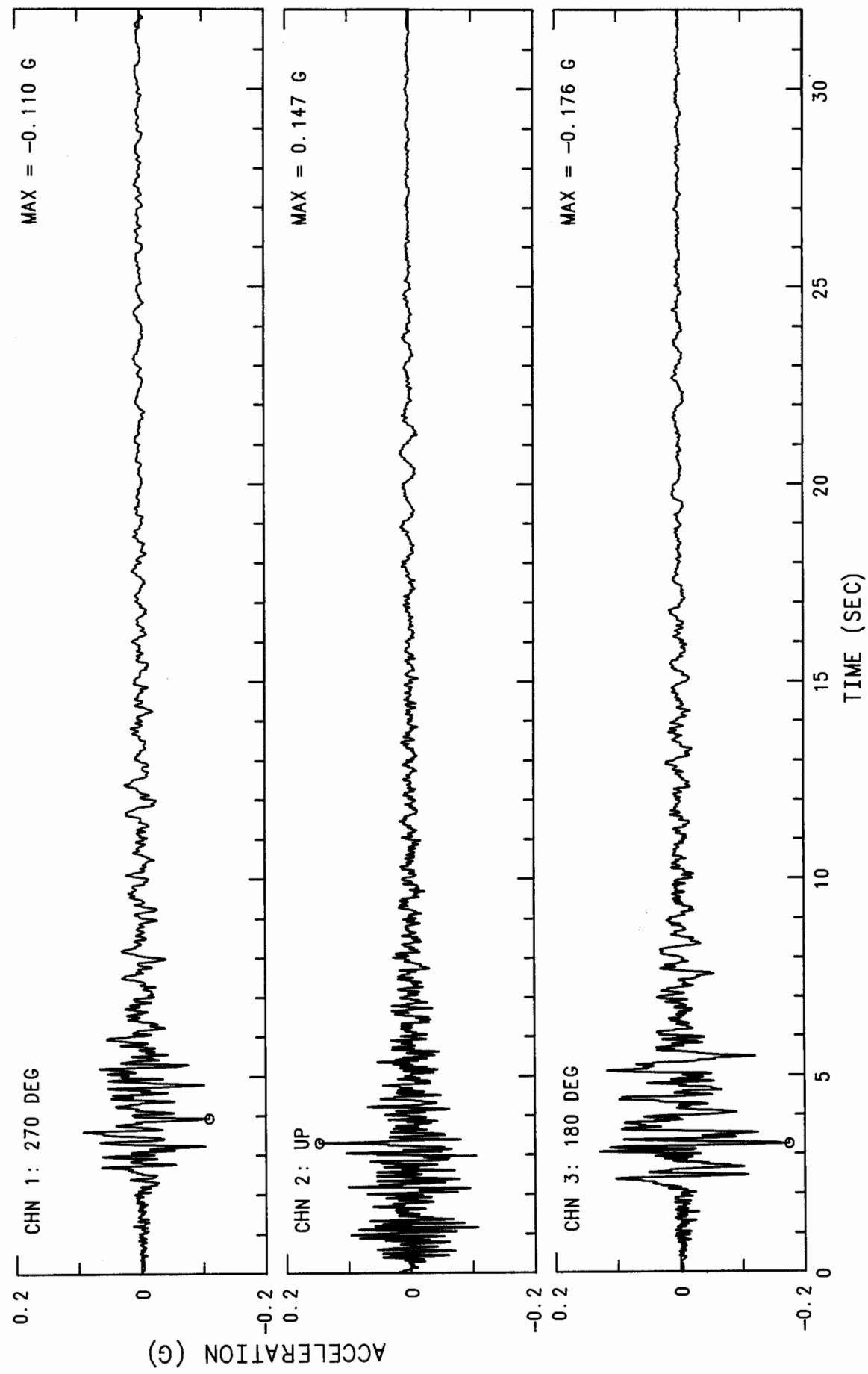
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KRESGE SEISMO. LAB.
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80054-S3000-88000.02.1 060189.1020-QW87A054



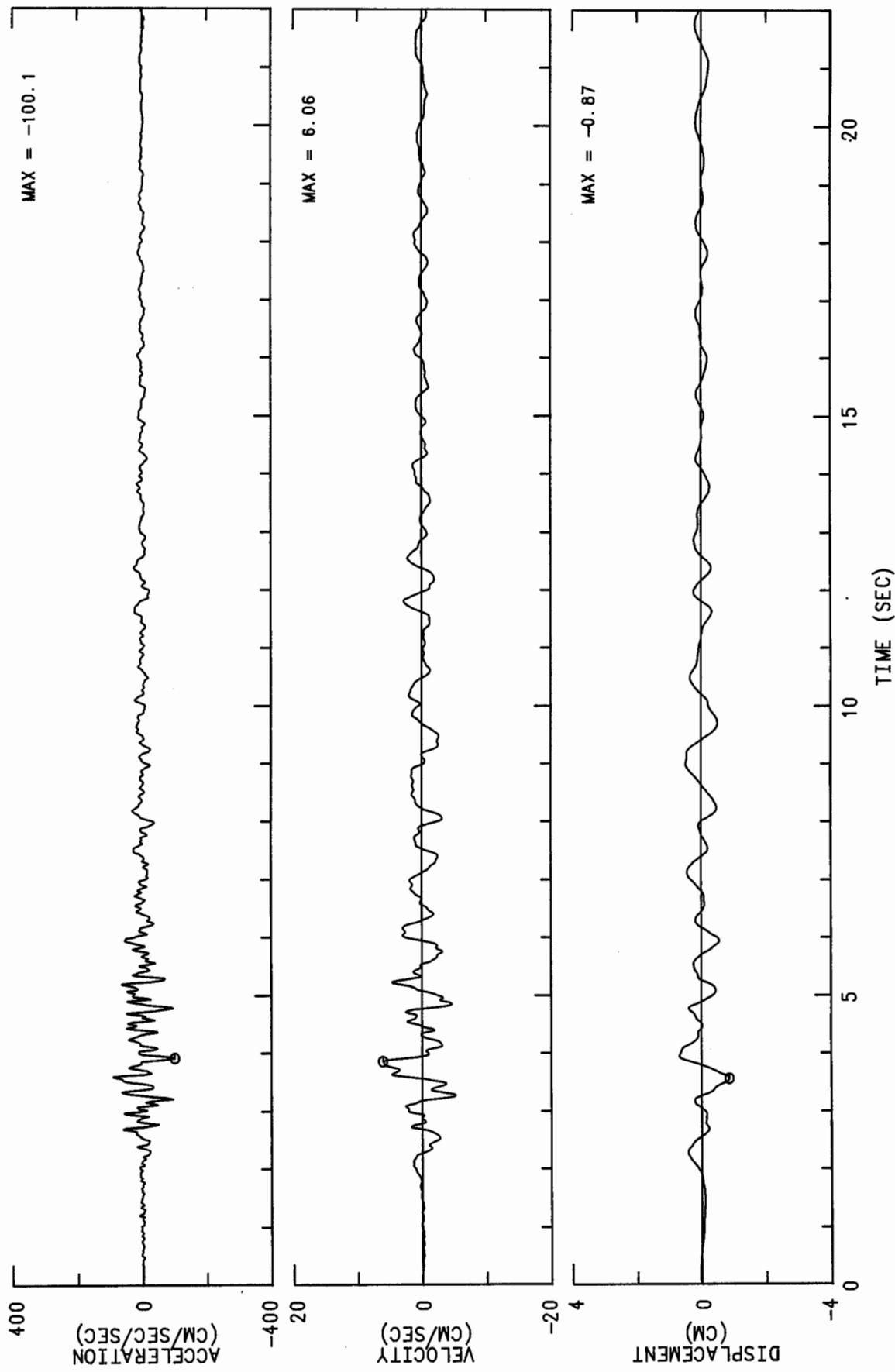
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH ATHENAEUM
UNCORRECTED ACCELEROMGRAM 80053-S0124-87000.02 090789.0901-QW87A053



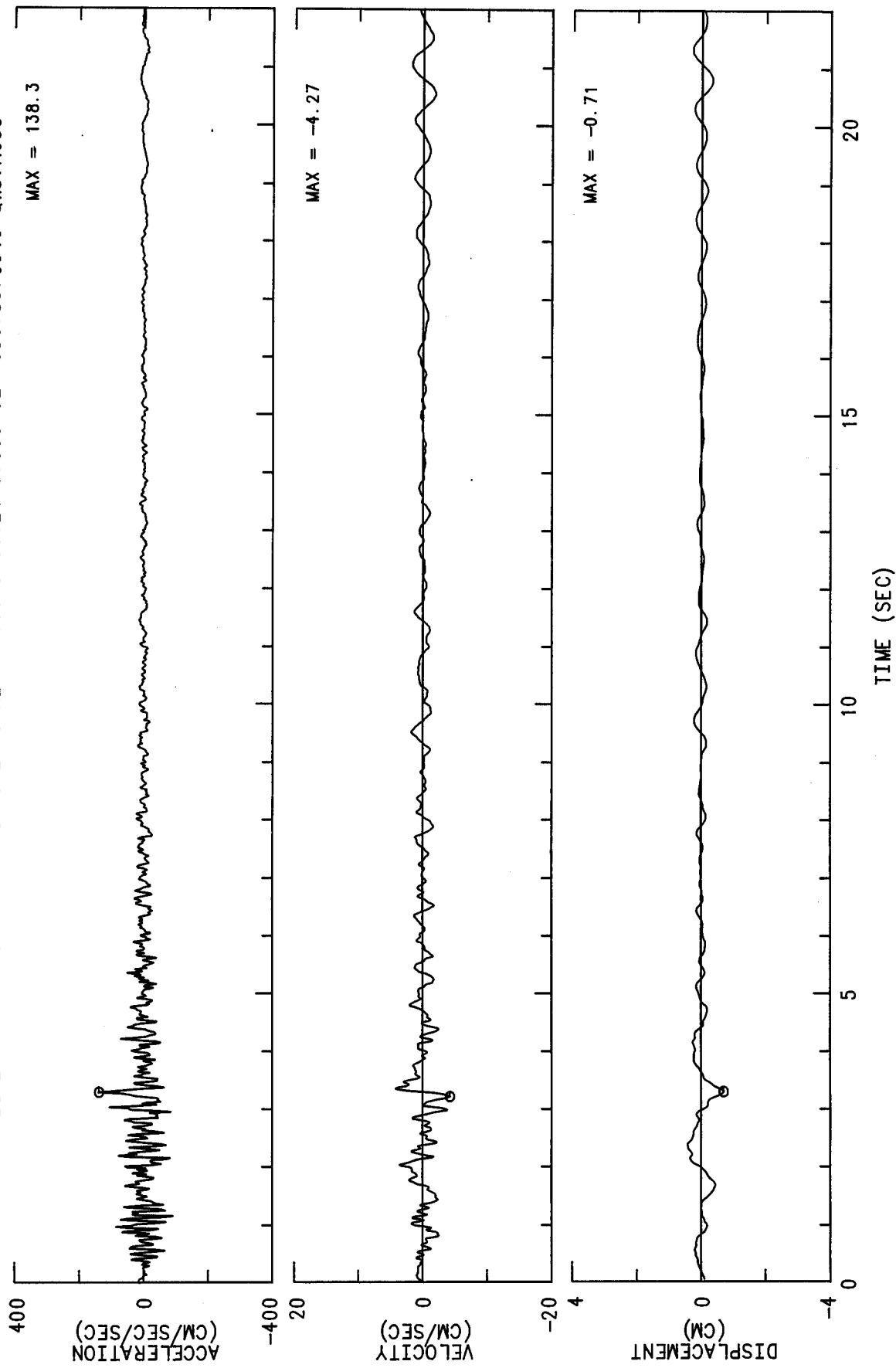
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH ATHENAEUM
UNCORRECTED ACCELERGRAM 80053-S0124-87000.02 090789.0901-QW87A053



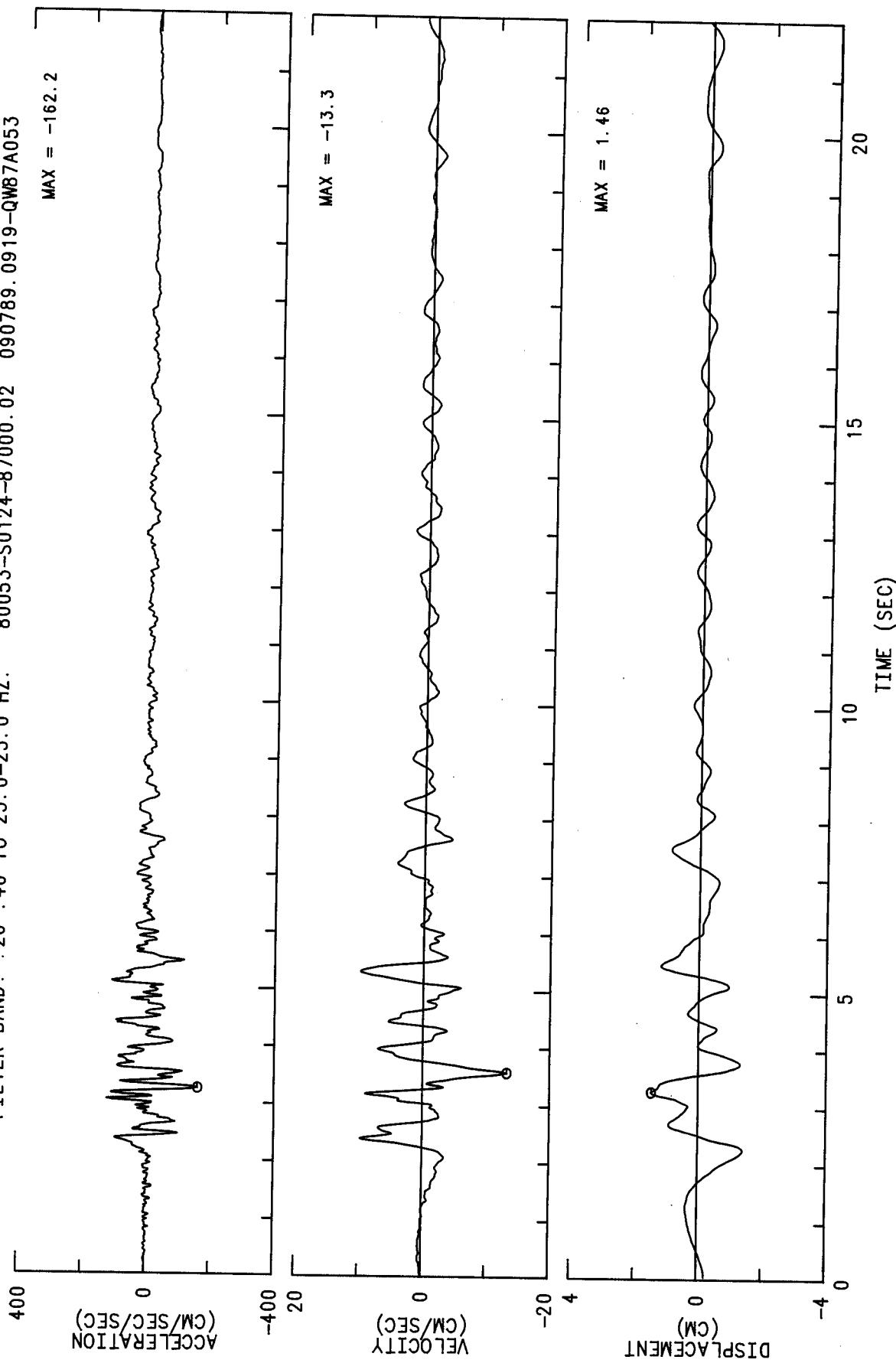
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH ATHENAEUM CHN 1: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80053-S0124-87000.02 090789.0919-QW87A053



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH ATHENAEUM CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80053-S0124-87000.02 090789.0919-QW87A053



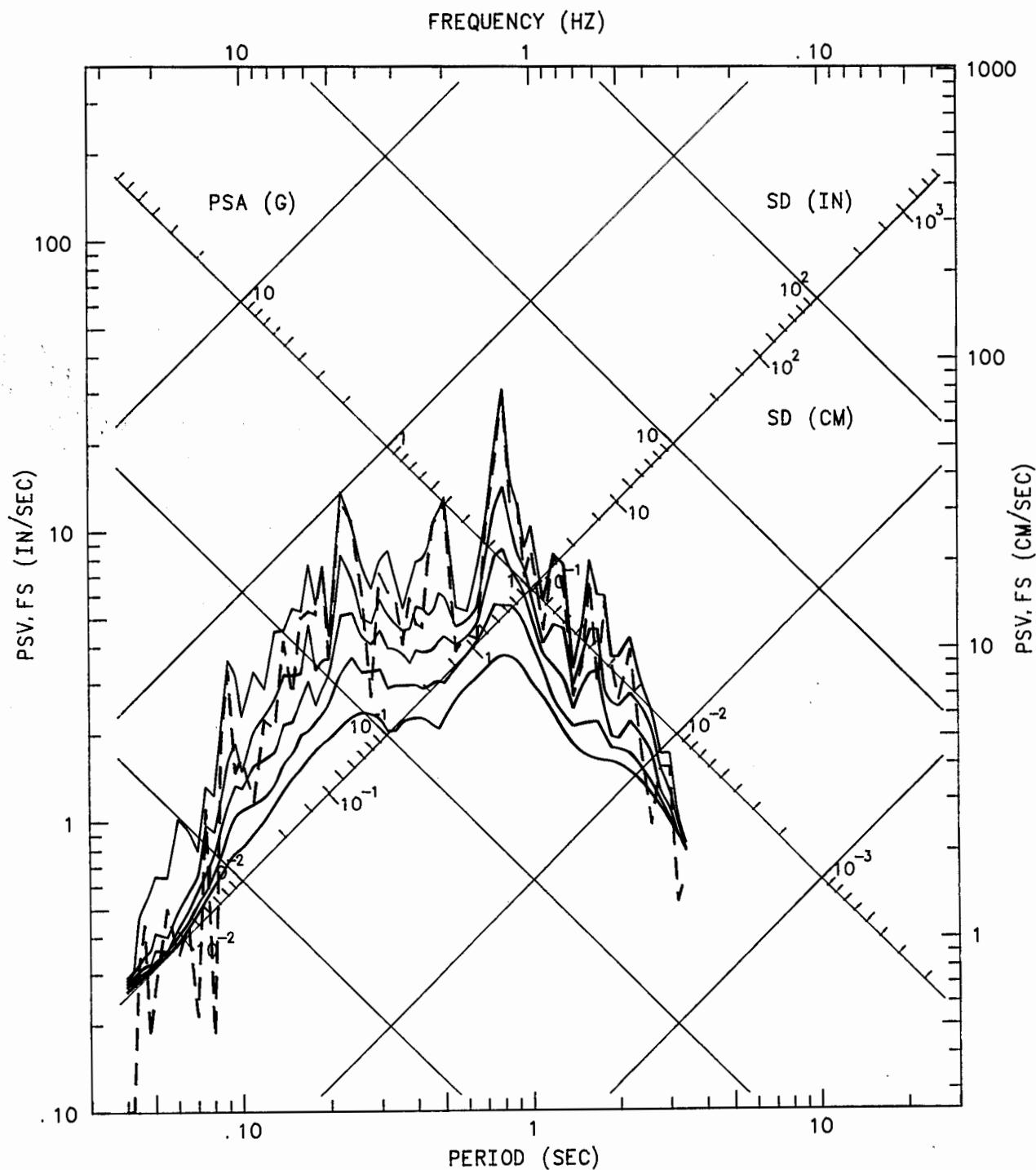
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH ATHENAEUM CHN 3: 180 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 Hz. 80053-S0124-87000.02 090789.0919-QW87A053



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH ATHENAEUM
 CHN 1: 270 DEG

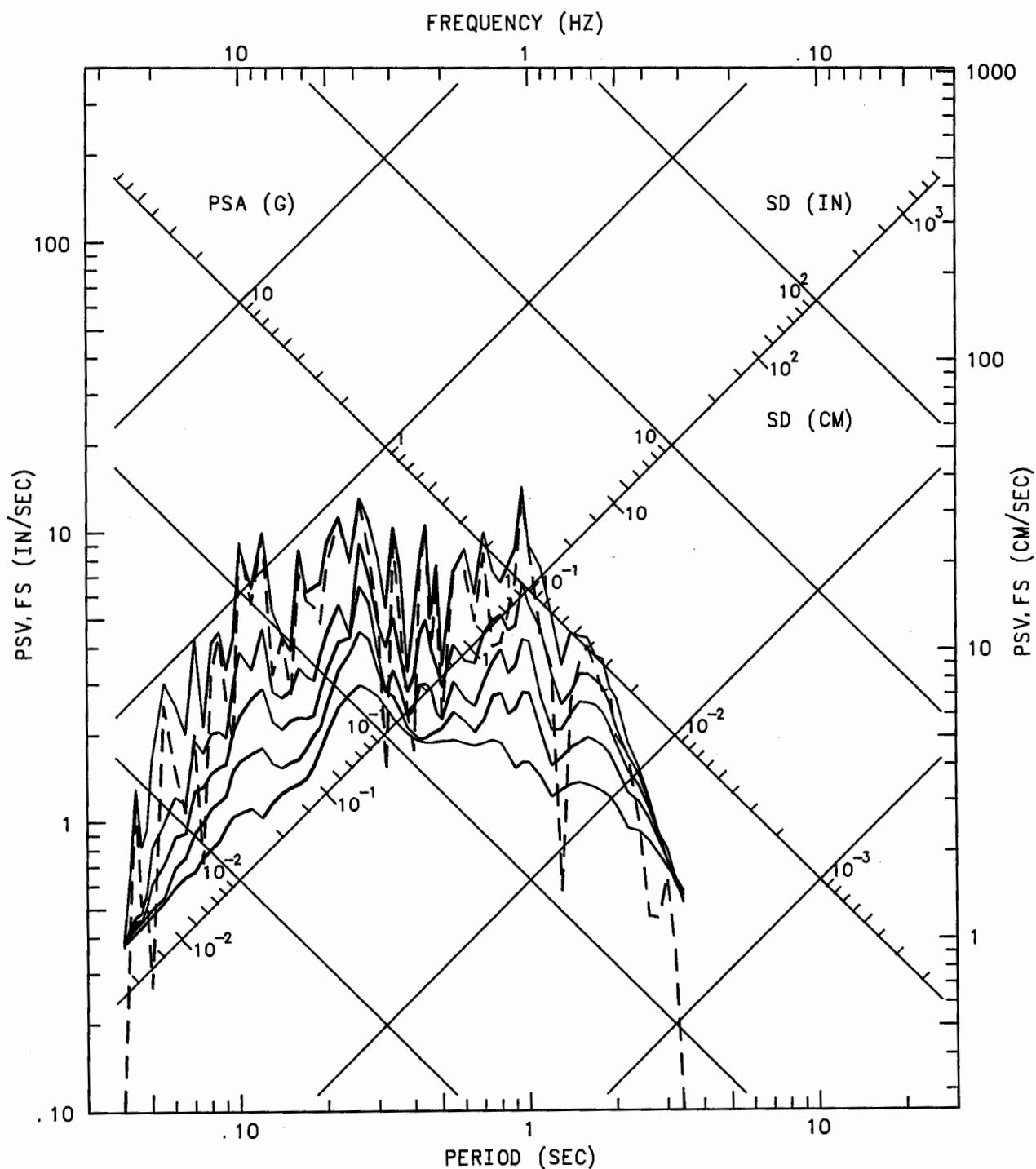
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80053-S0124-87000.02 090789.0930-QW87A053

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



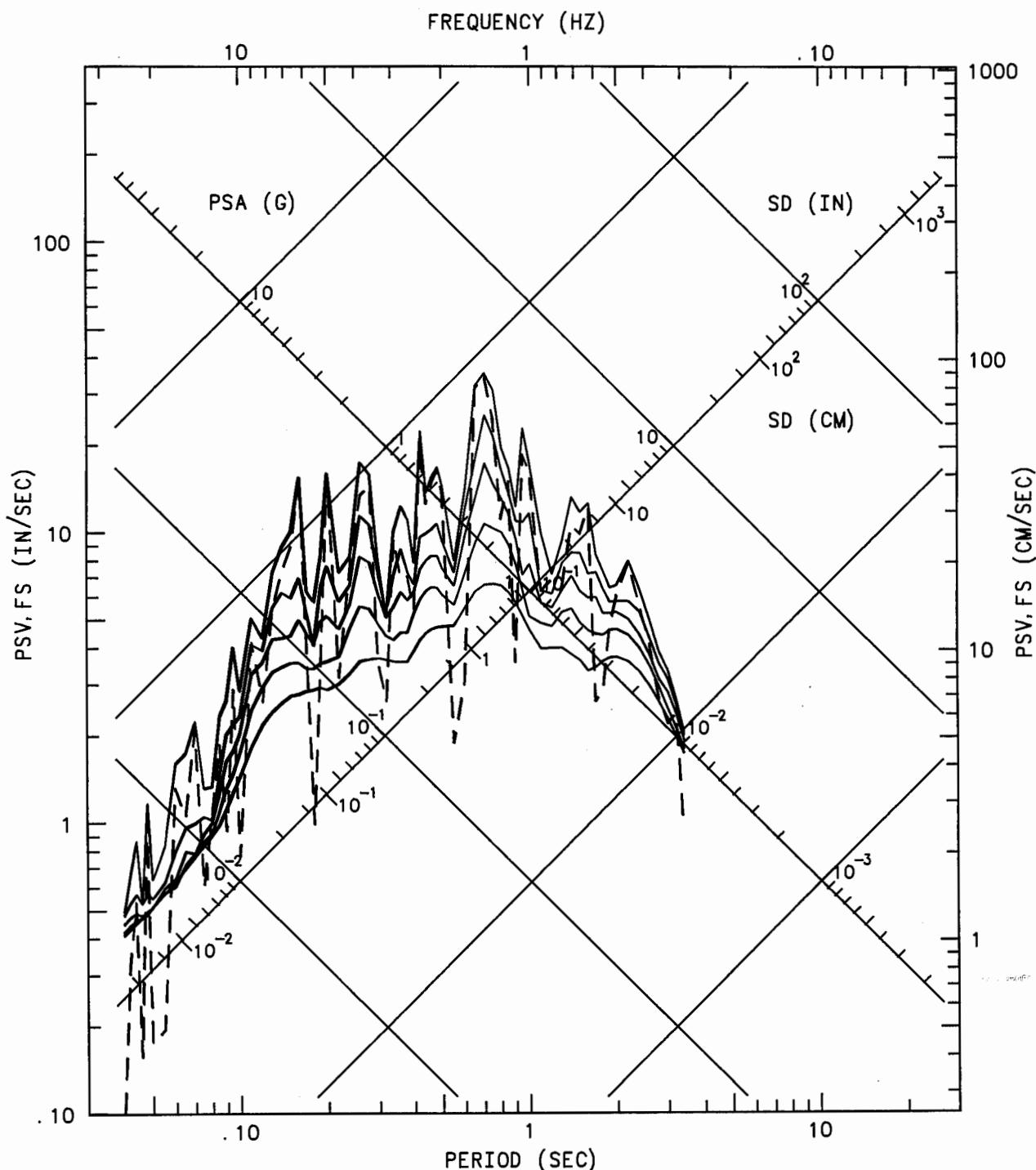
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH ATHENAEUM
 CHN 2: UP
 ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80053-S0124-87000.02 090789.0930-QW87A053

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%

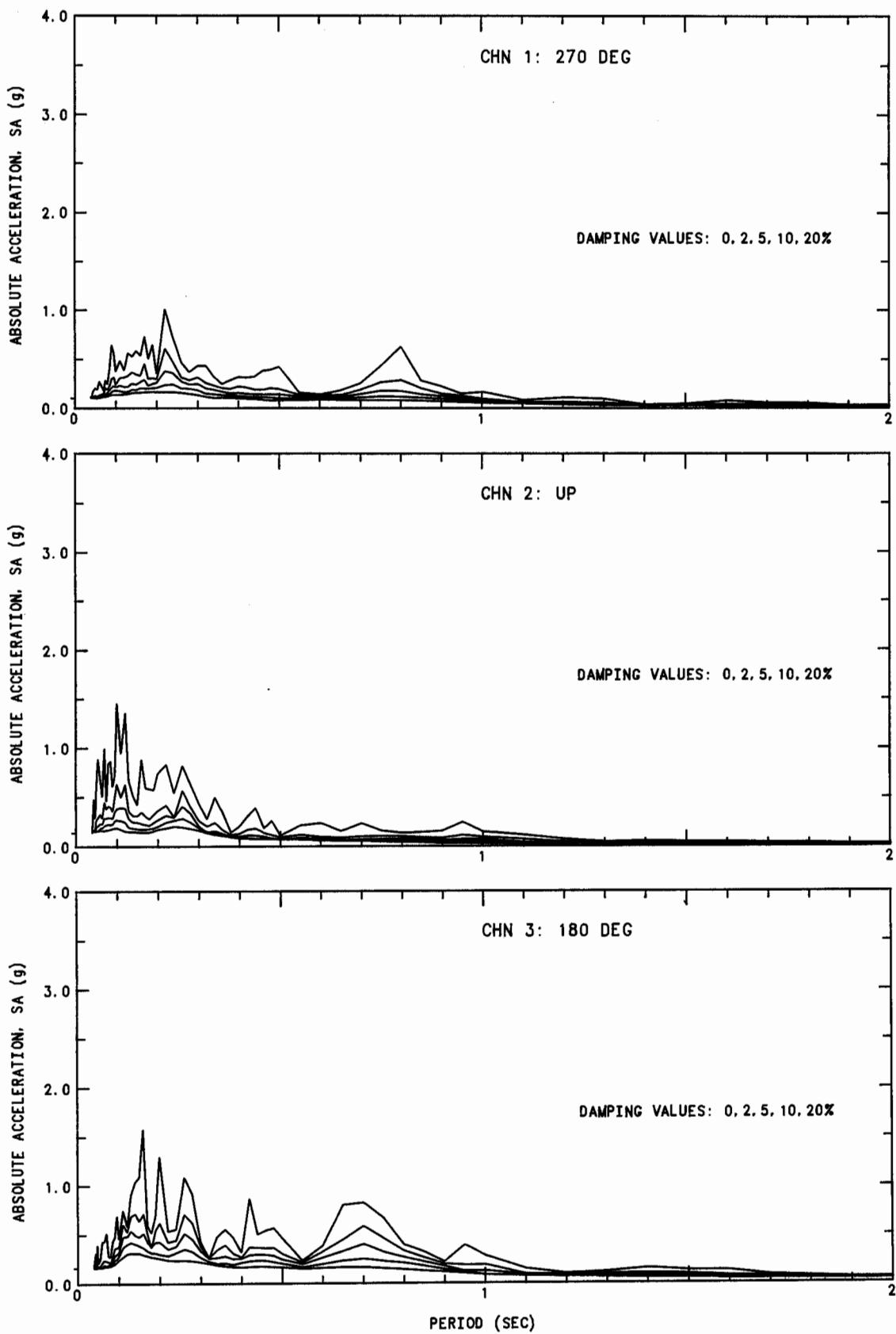


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH ATHENAEUM
 CHN 3: 180 DEG
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80053-S0124-87000.02 090789.0930-QW87A053

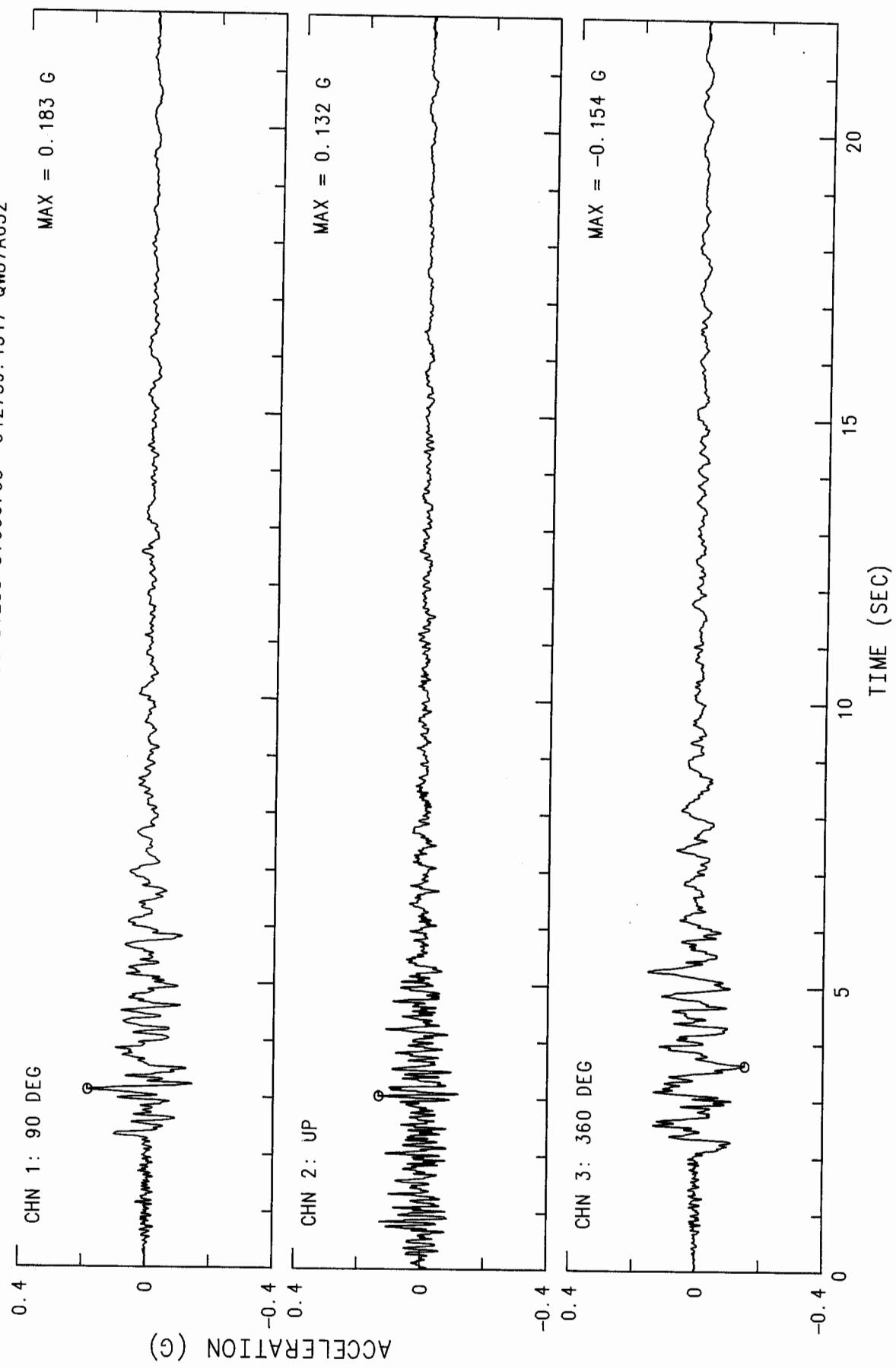
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



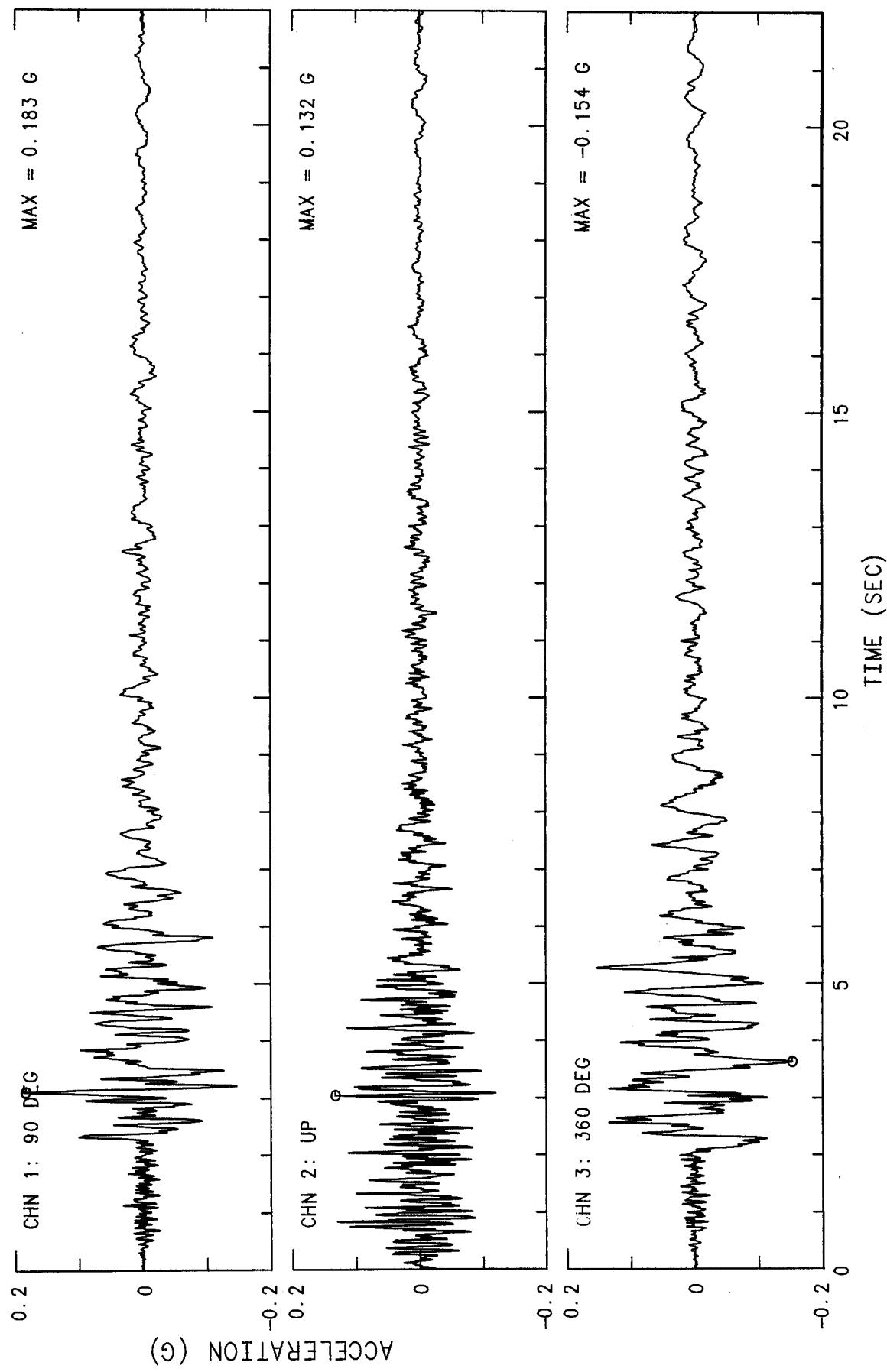
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH ATHENAEUM
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80053-S0124-87000.02 090789.0930-QW87A053



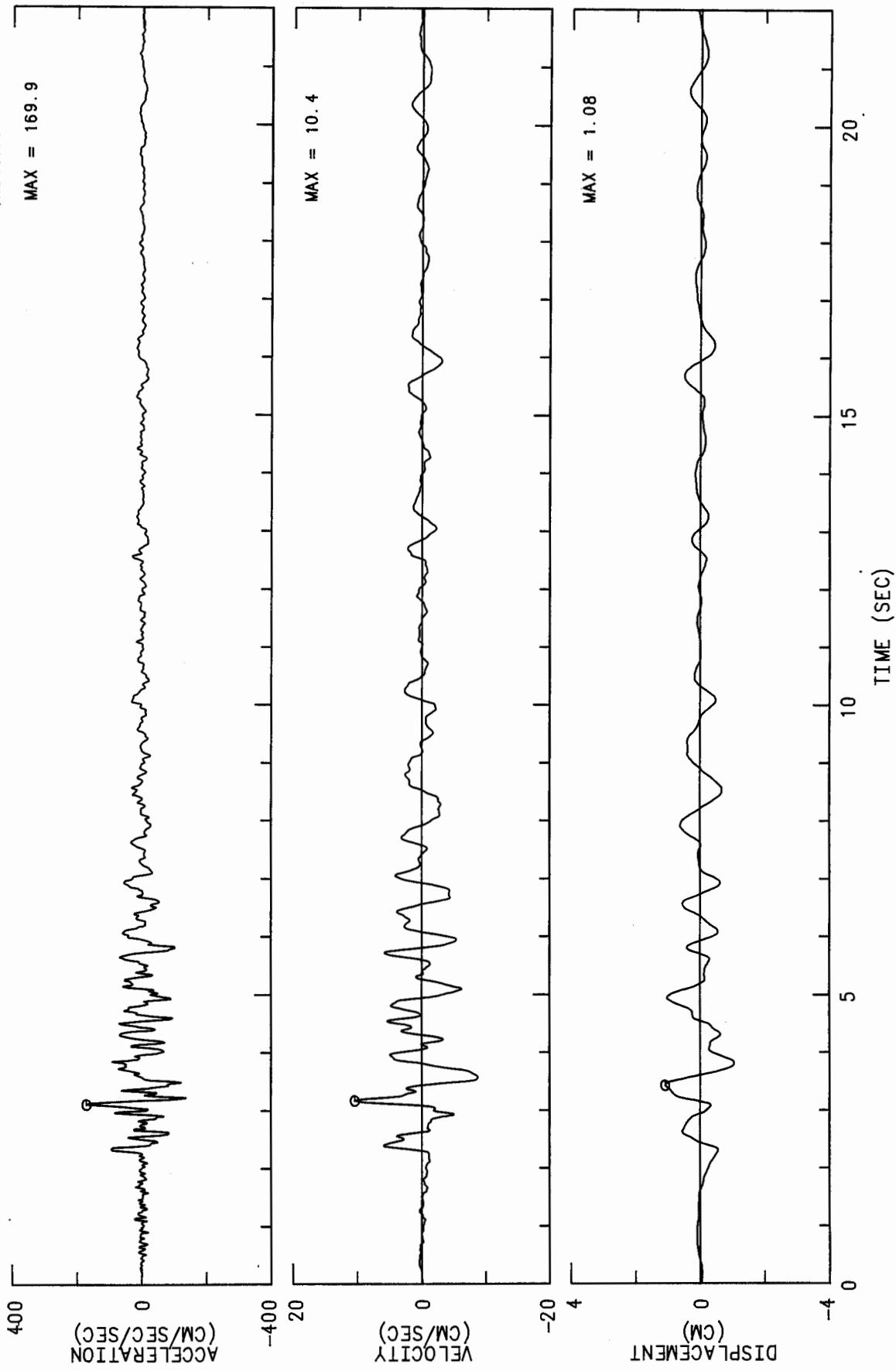
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH BRIDGE LABORATORY
UNCORRECTED ACCELERGRAM 80052-S1255-87000.03 042789.1317-QW87A052



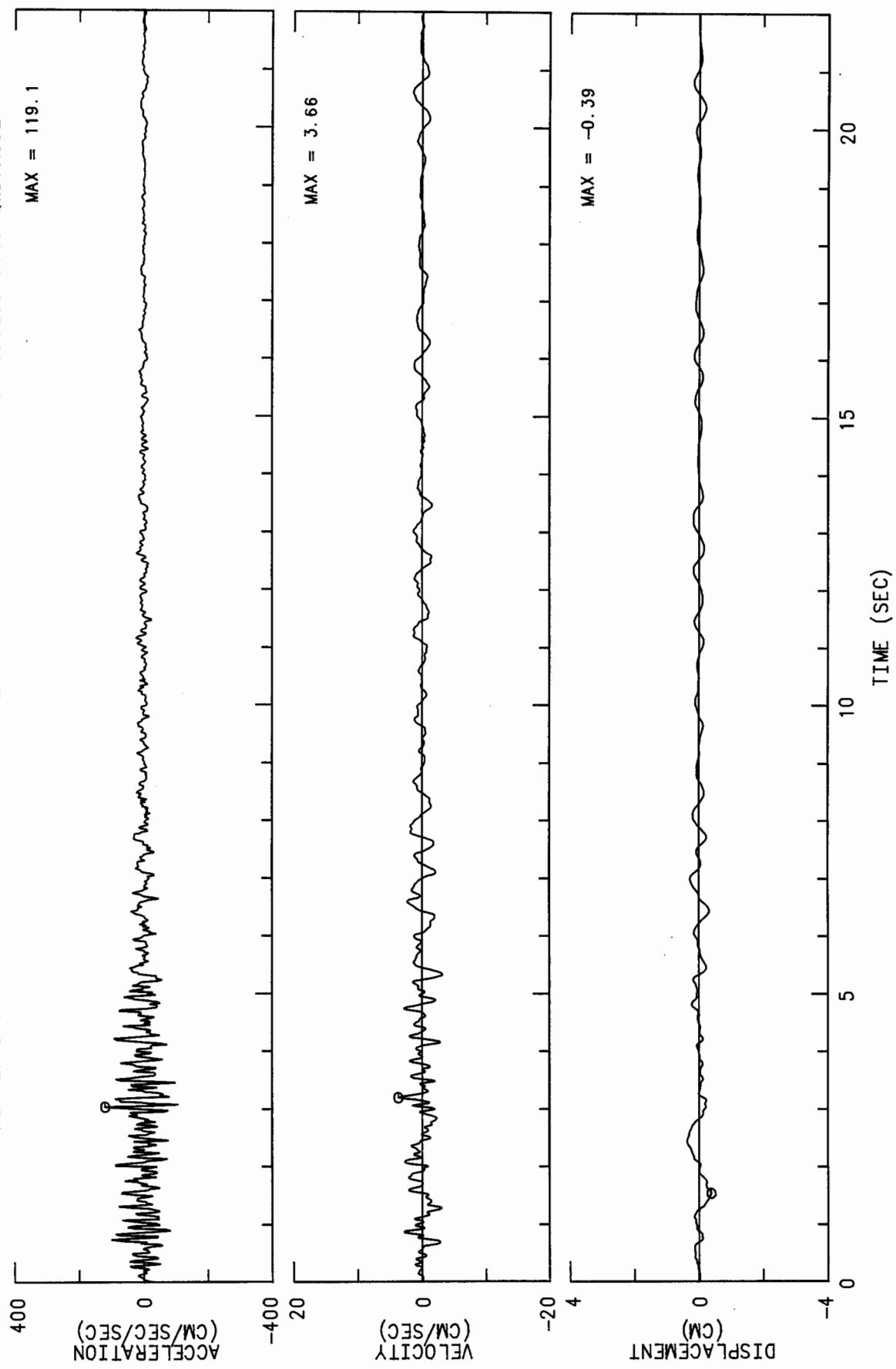
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BRIDGE LABORATORY
UNCORRECTED ACCELERPROGRAM 80052-S1255-87000.03 042789.1317-QW87A052



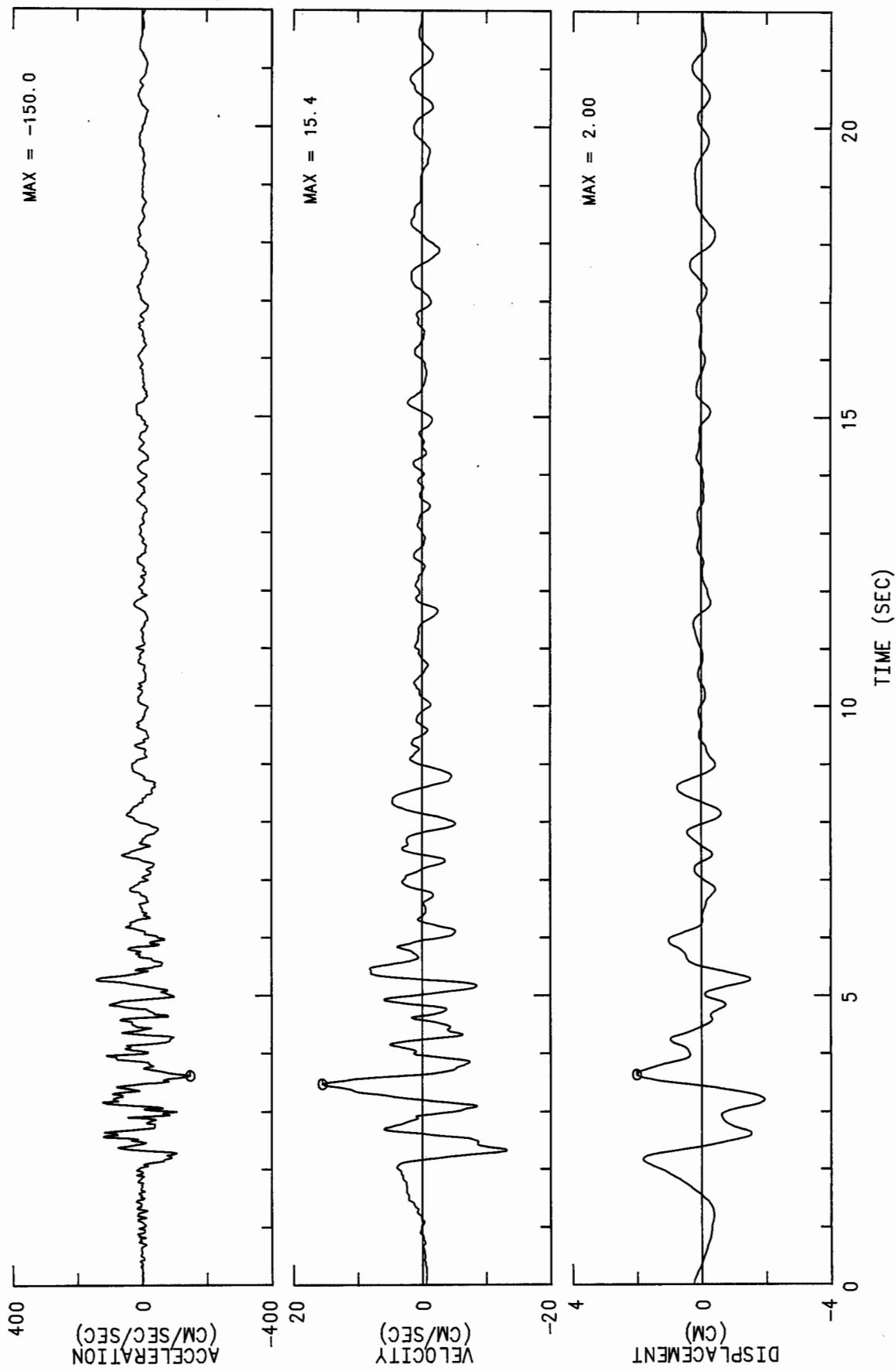
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH BRIDGE LABORATORY CHN 1: 90 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80052-S1255-87000.03 050289.0146-QW87A052



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BRIDGE LABORATORY CHN 2:
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80052-S1255-87000.03 050289.0146-QW87A052



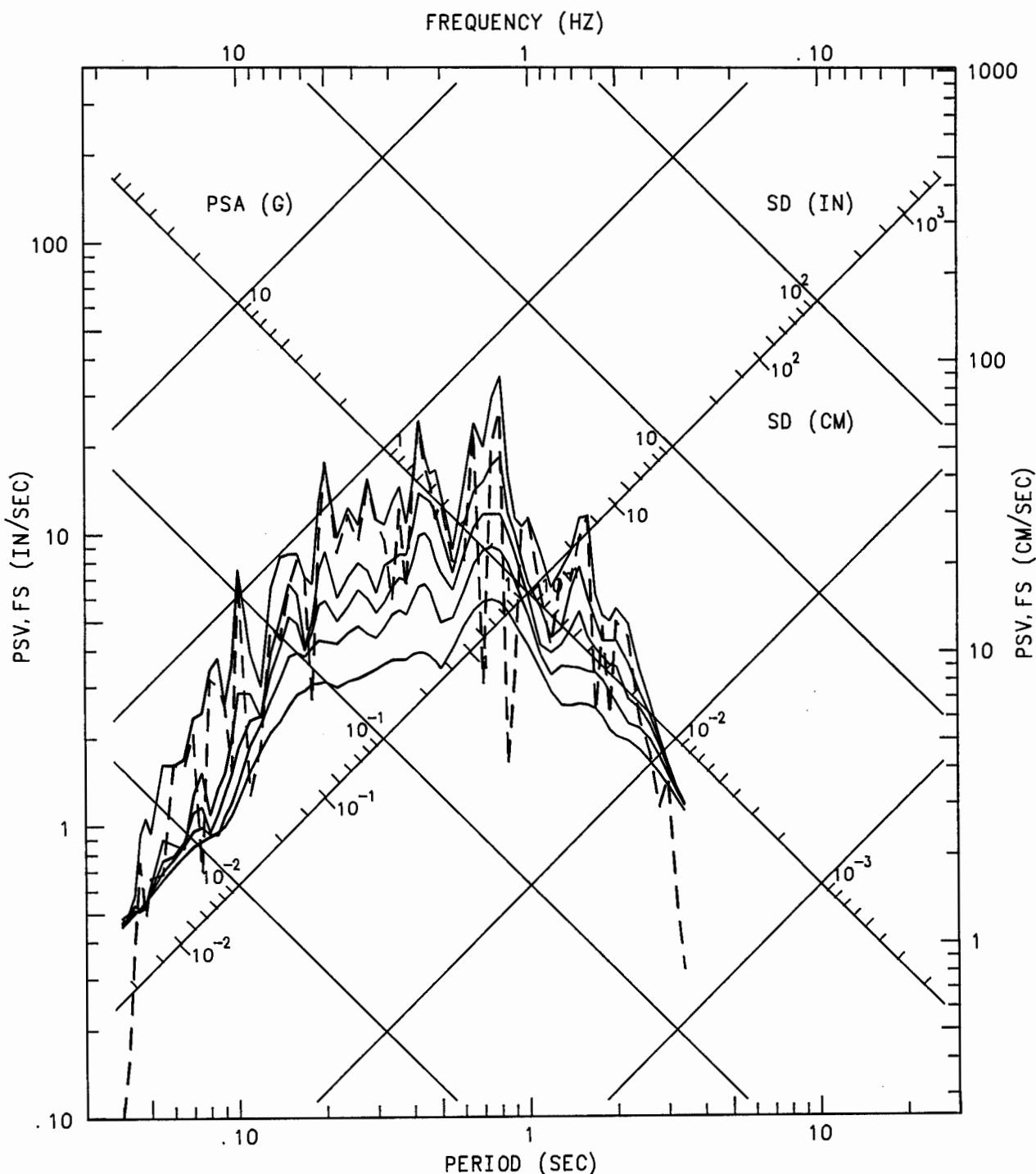
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BRIDGE LABORATORY CHN 3: 360 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80052-S1255-87000.03 050289.0146-QW87A052



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH BRIDGE LABORATORY
 CHN 1: 90 DEG

ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80052-S1255-87000.03 060189.1247-QW87A052

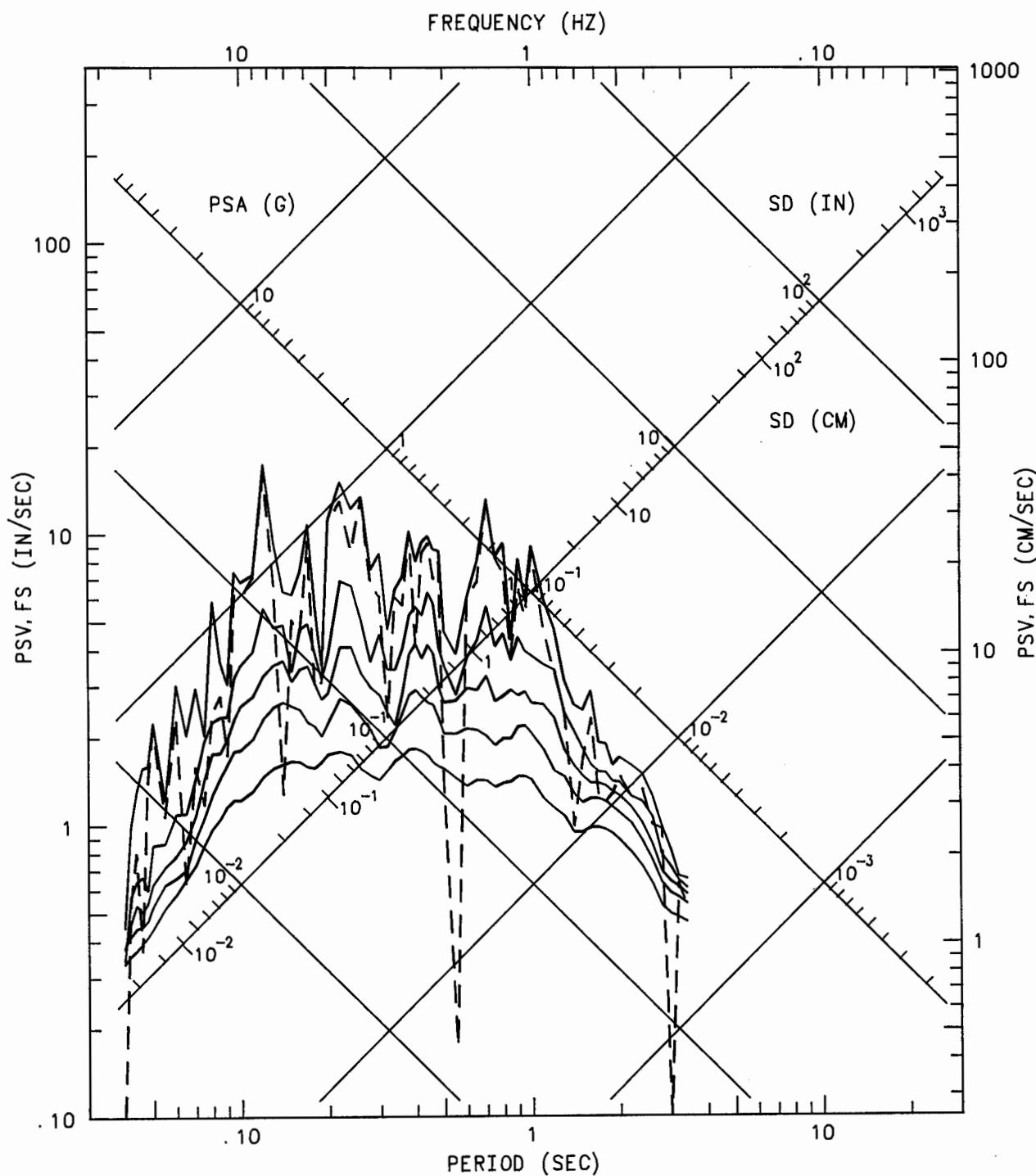
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH BRIDGE LABORATORY
 CHN 2: UP

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80052-S1255-87000.03 060189.1247-QW87A052

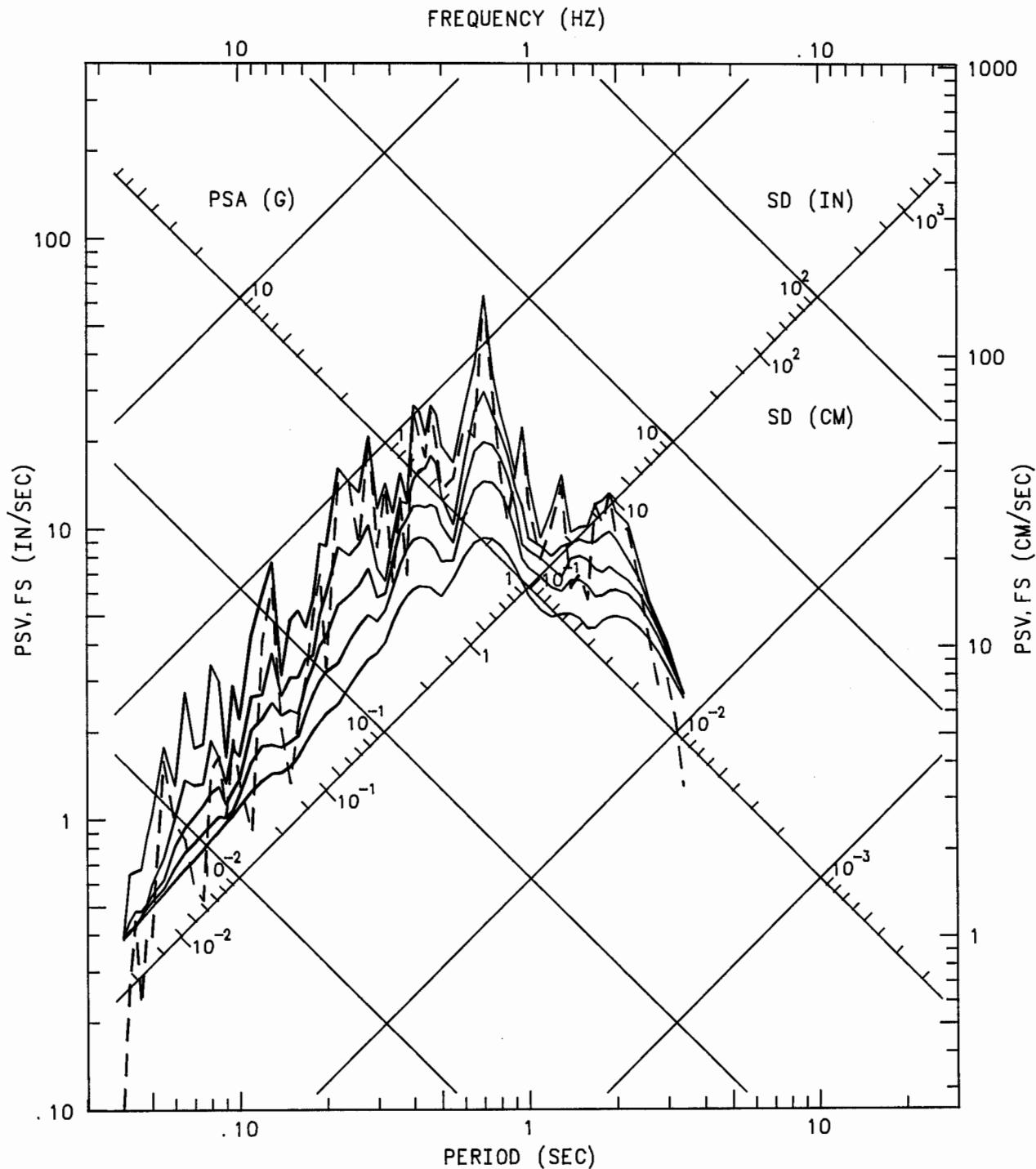
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



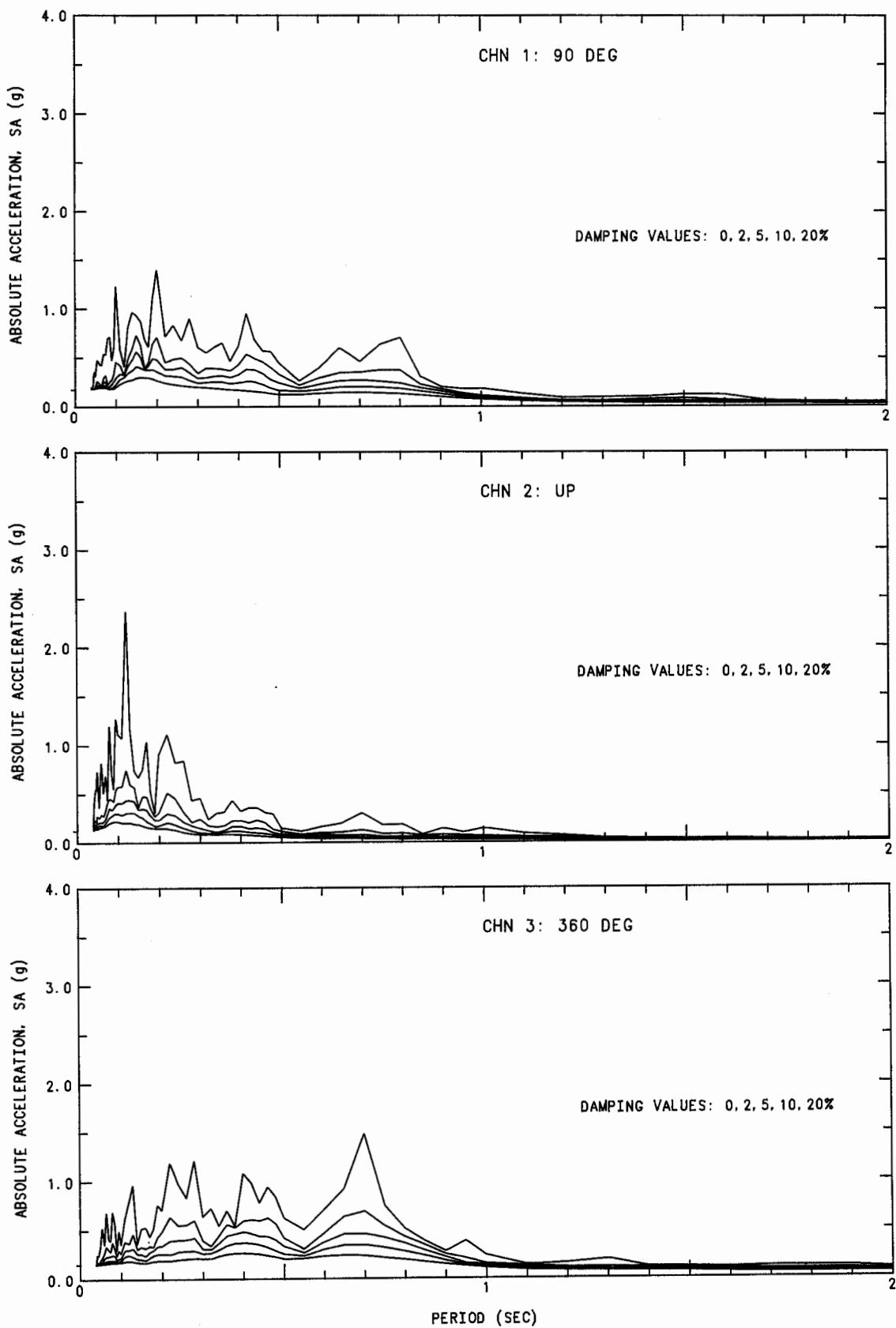
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BRIDGE LABORATORY
CHN 3: 360 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
80052-S1255-87000.03 060189.1247-QW87A052

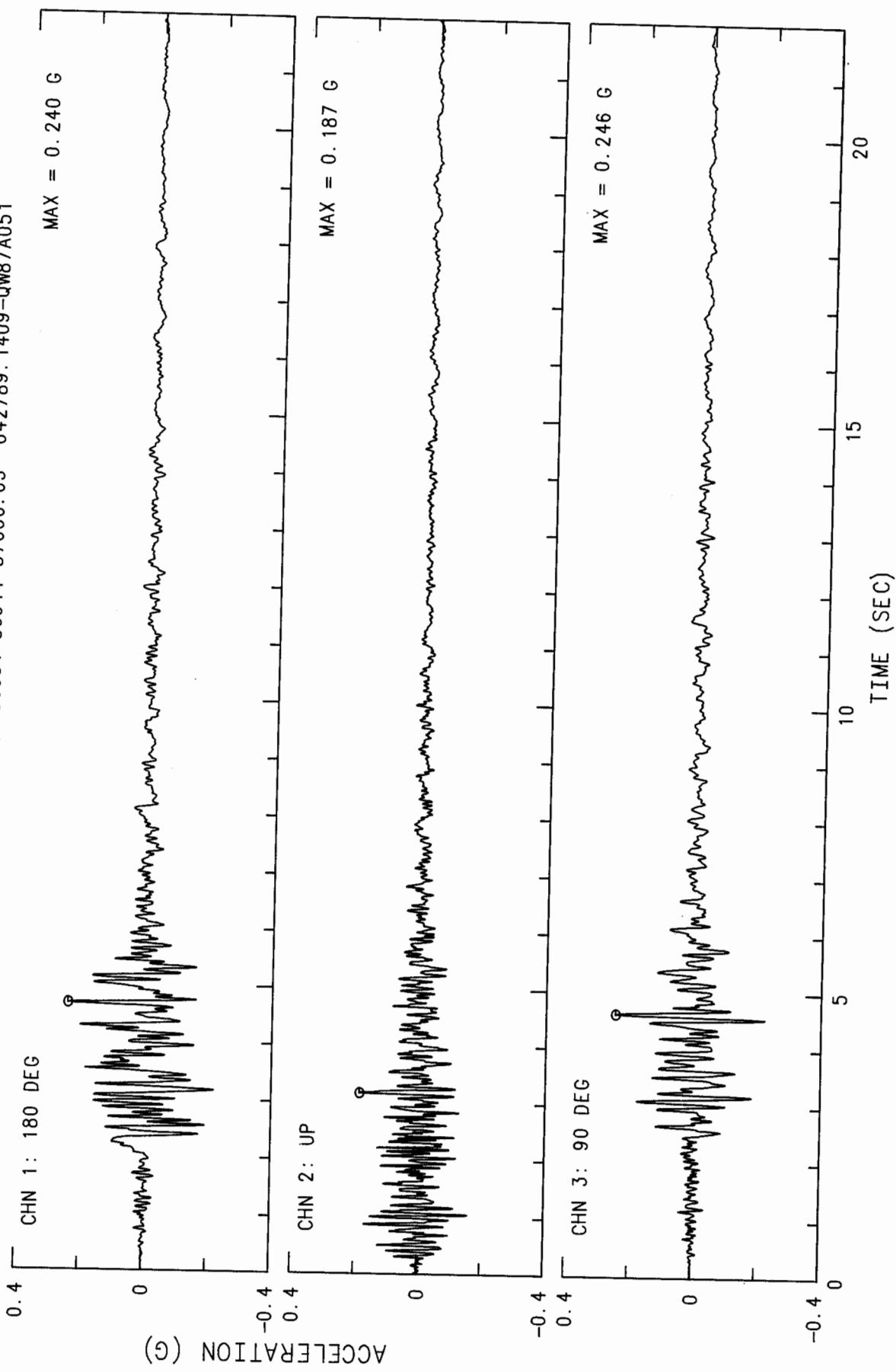
— RESPONSE SPECTRA: PSV, PSA & SD —— FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



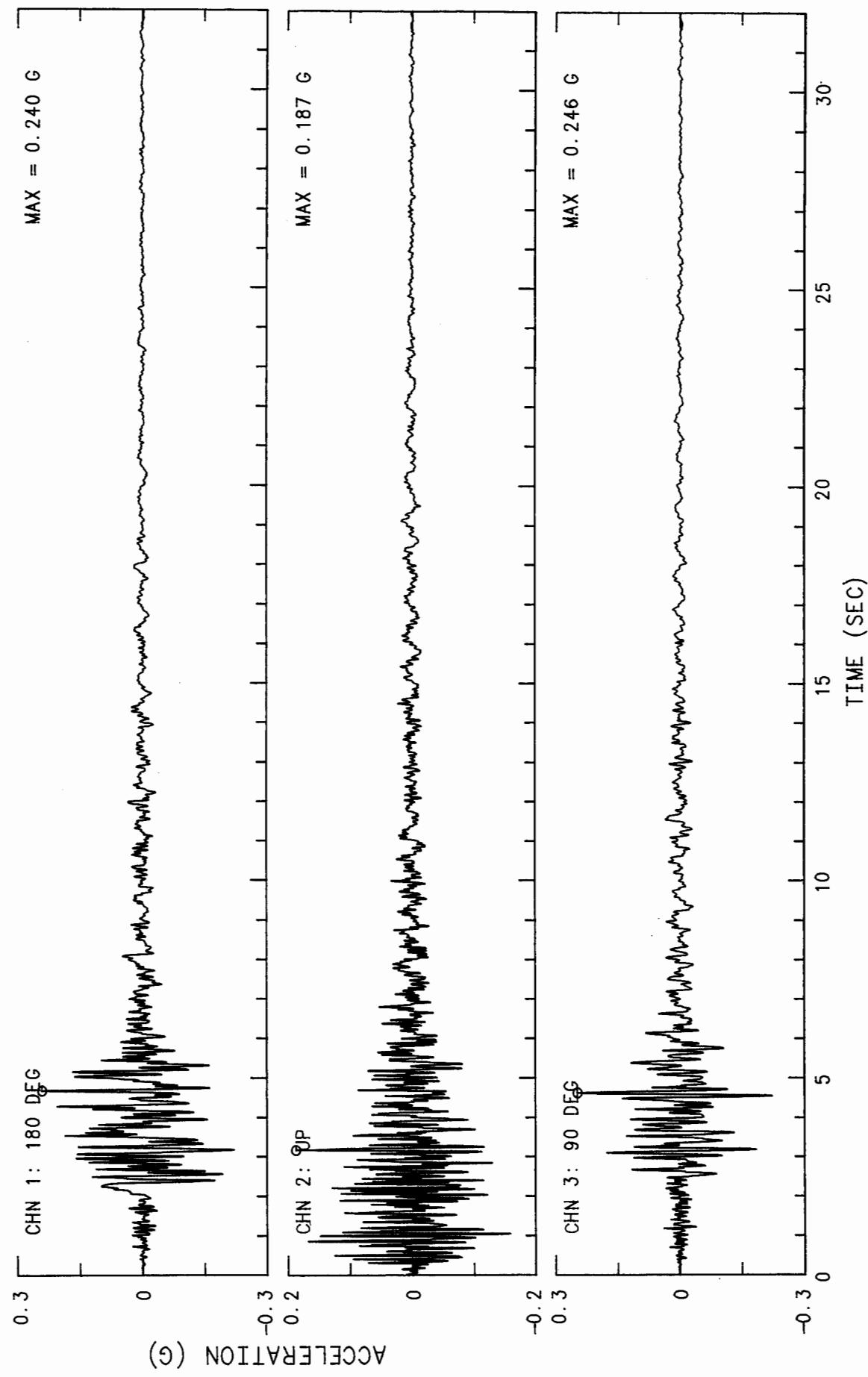
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BRIDGE LABORATORY
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80052-S1255-87000.03 060189.1247-QWB7A052



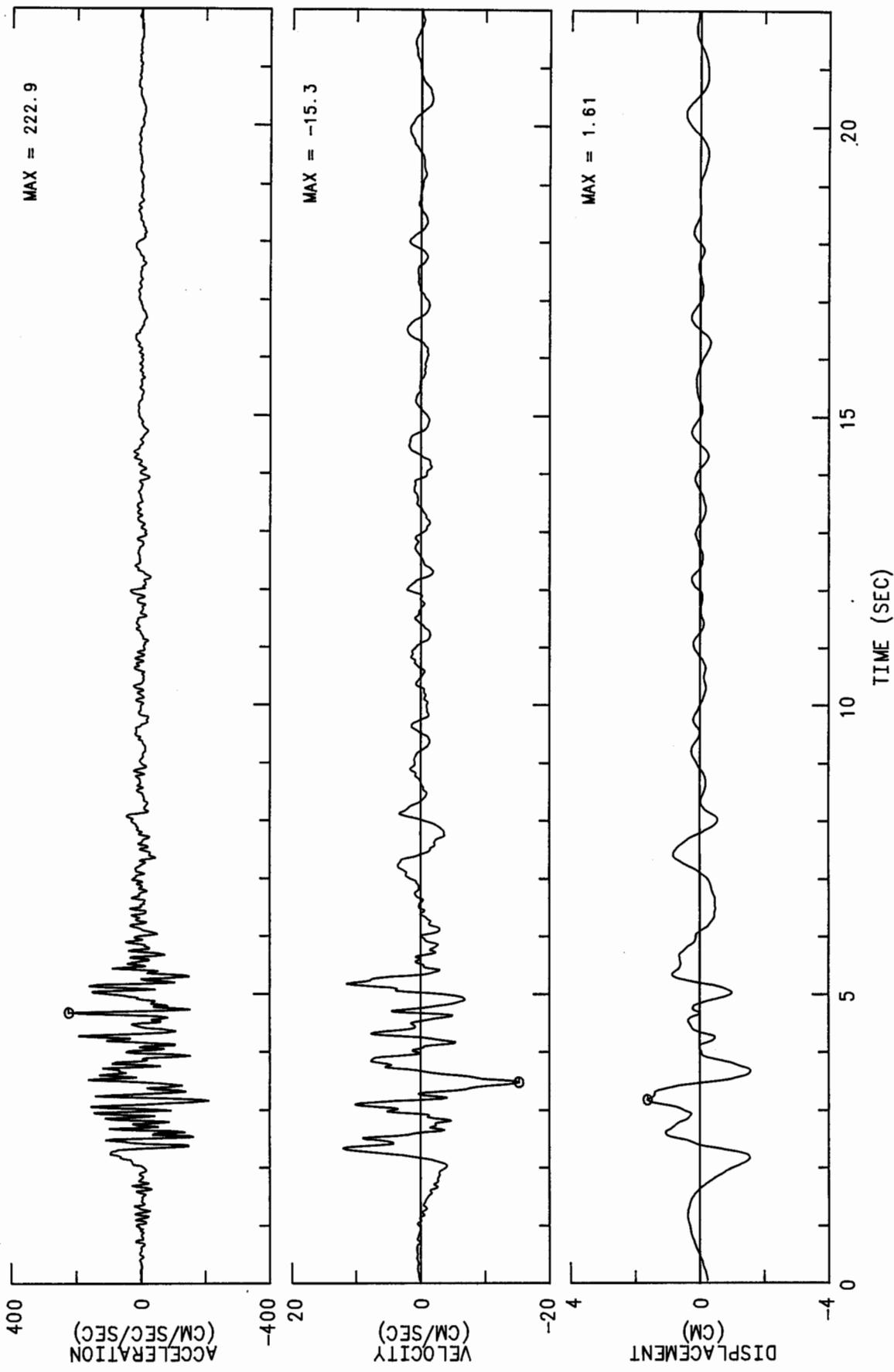
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH INDUSTRIAL REL. CNTR
UNCORRECTED ACCELEROMETER 80051-S0911-87000.03 042789.1409-QW87A051



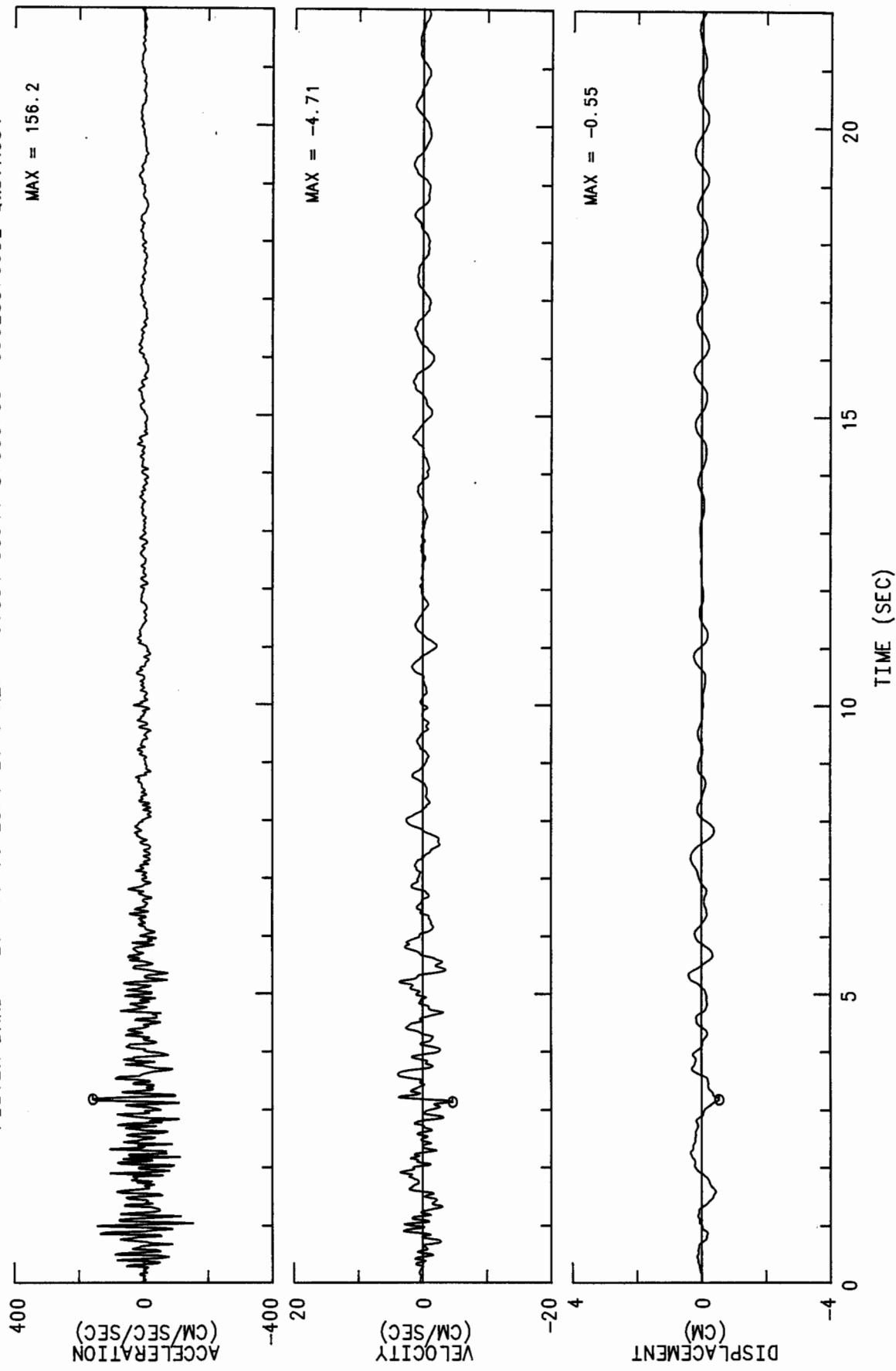
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH INDUSTRIAL REL. CNTR
UNCORRECTED ACCELERGRAM 80051-S0911-87000.03 042789.1409-QW87A051



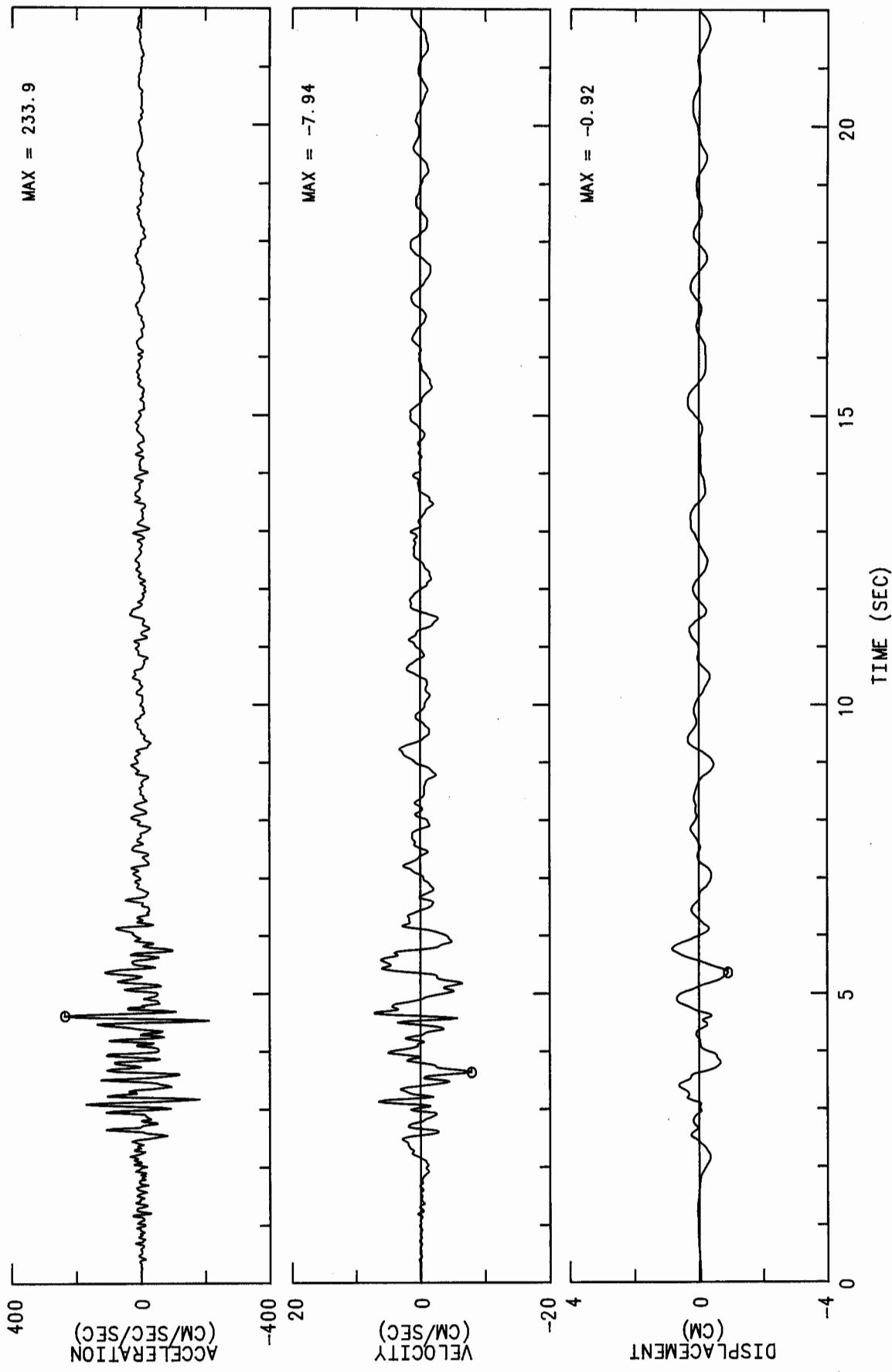
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH INDUSTRIAL REL. CNTR CHN 1: 180 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80051-S0911-87000.03 050289.0032-QW87A051



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH INDUSTRIAL REL. CNTR CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80051-S0911-87000.03 050289.0032-QW87A051



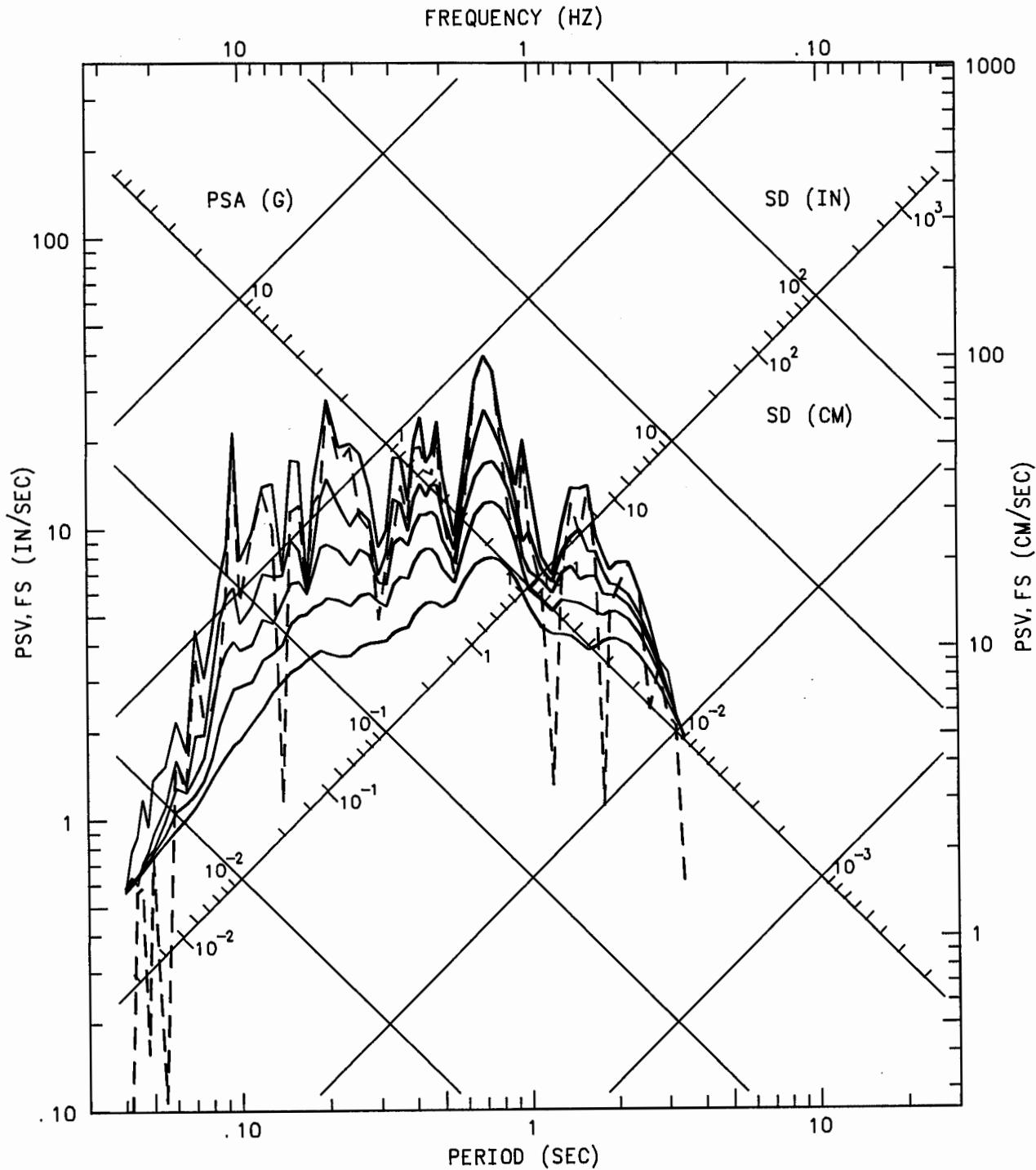
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH INDUSTRIAL REL. CNTR CHN 3: 90 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80051-S0911-87000.03 050289.0032-QW87A051



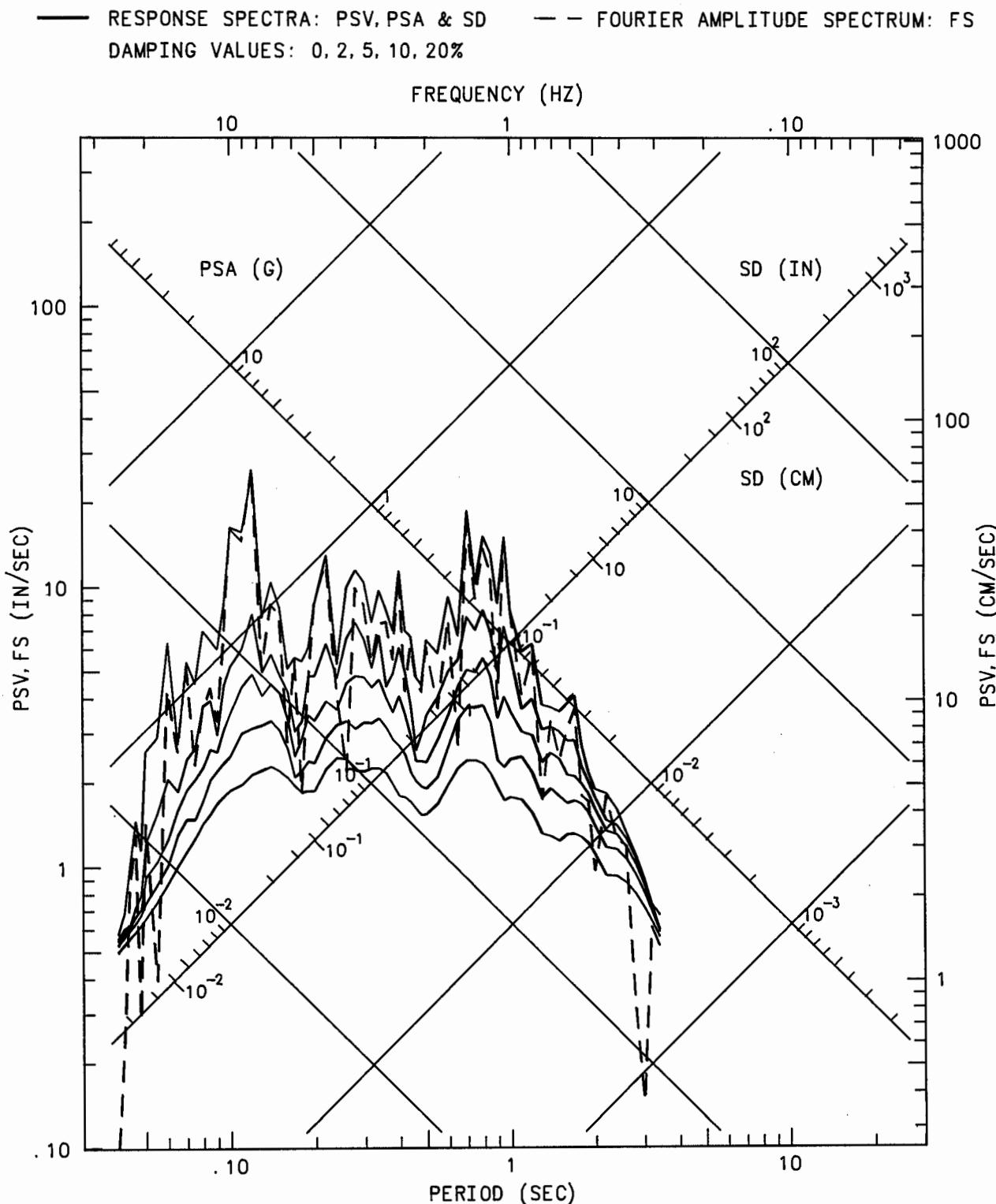
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH INDUSTRIAL REL. CNTR
CHN 1: 180 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80051-S0911-87000.03 060289.0850-QW87A051

— RESPONSE SPECTRA: PSV, PSA & SD - - FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



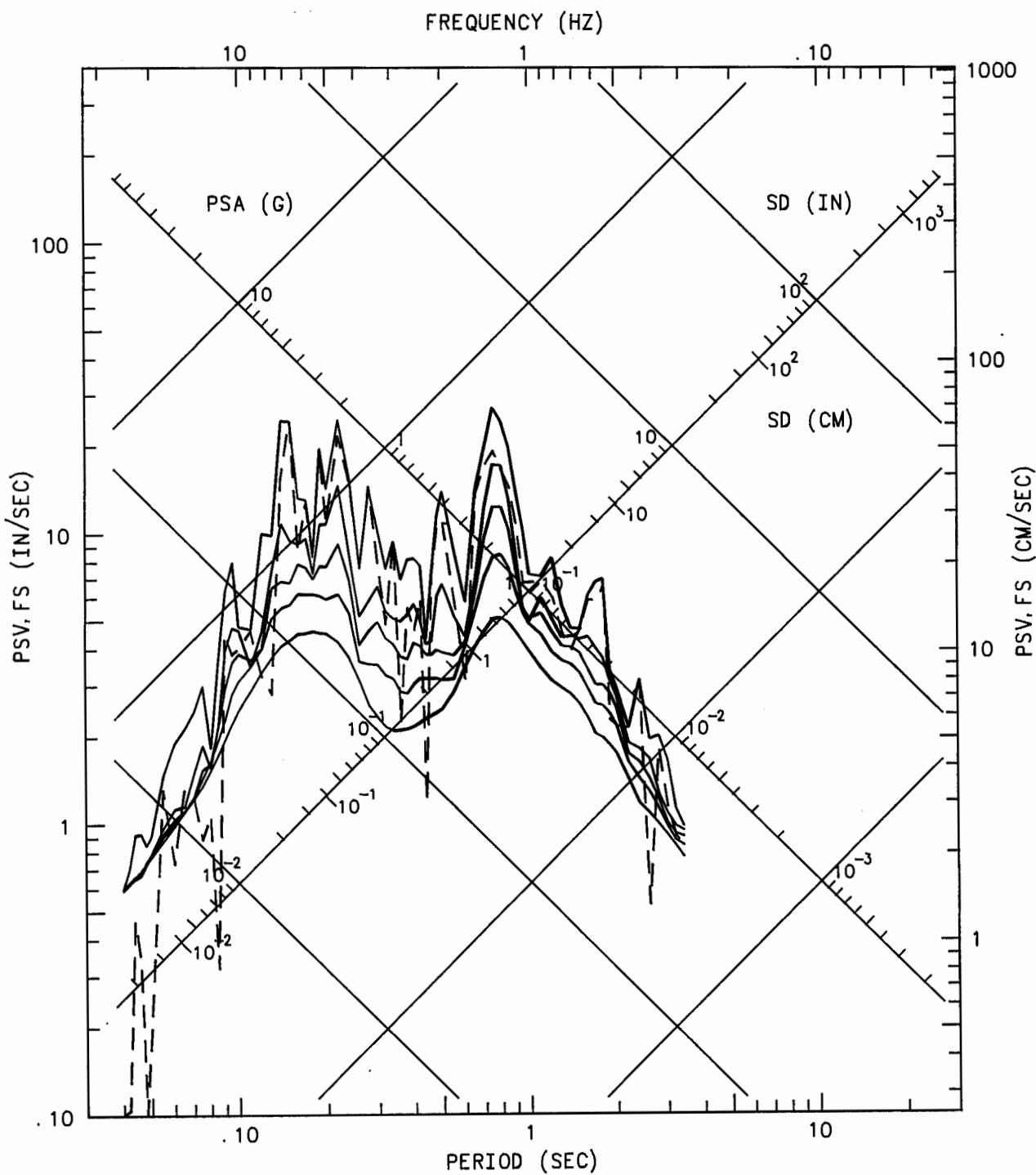
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH INDUSTRIAL REL. CNTR
 CHN 2: UP
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80051-S0911-87000.03 060289.0850-QW87A051



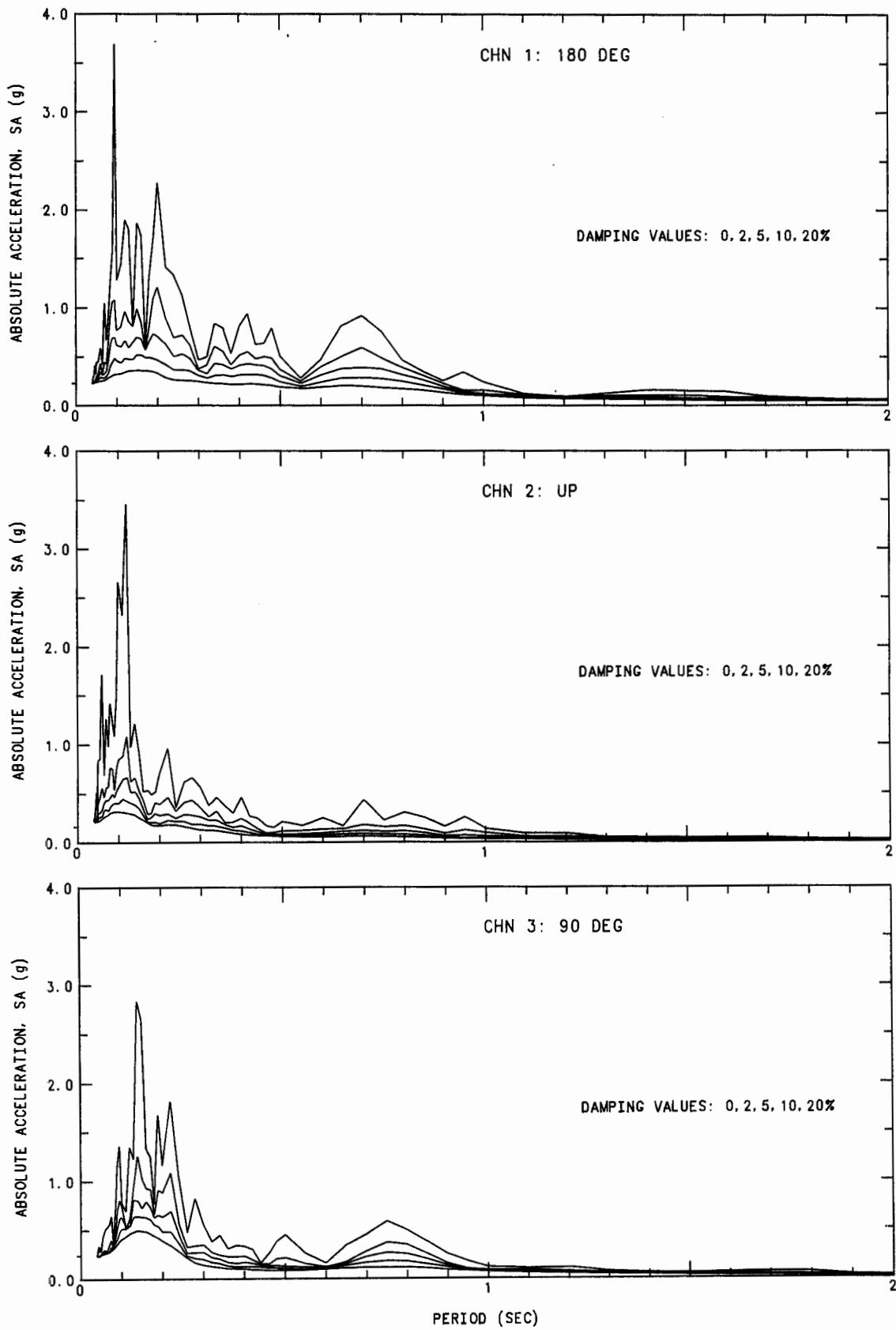
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH INDUSTRIAL REL. CNTR
 CHN 3: 90 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80051-S0911-87000.03 060289.0850-QW87A051

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



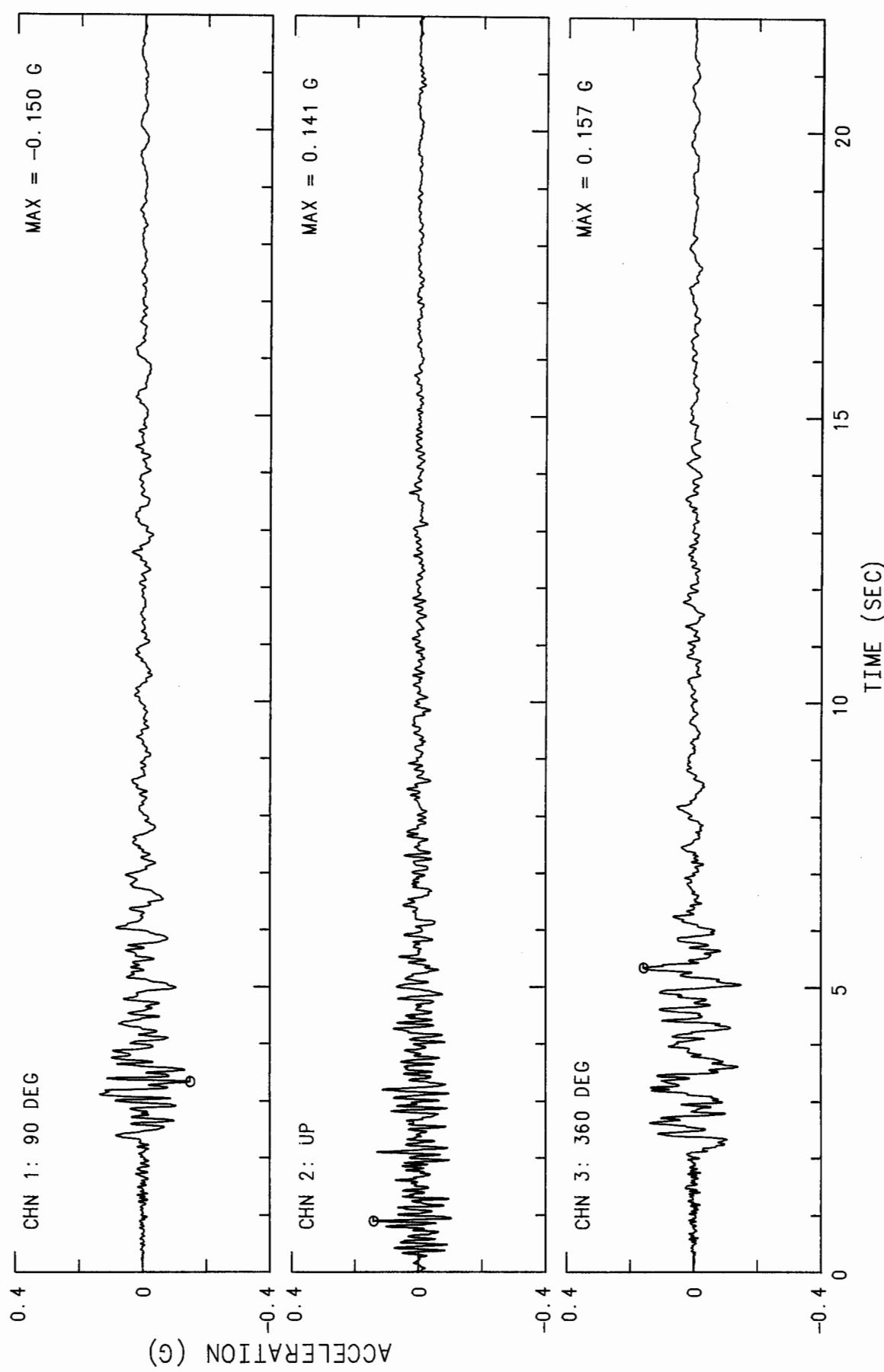
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH INDUSTRIAL REL. CNTR
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80051-S0911-87000.03 060289.0850-QW87A051



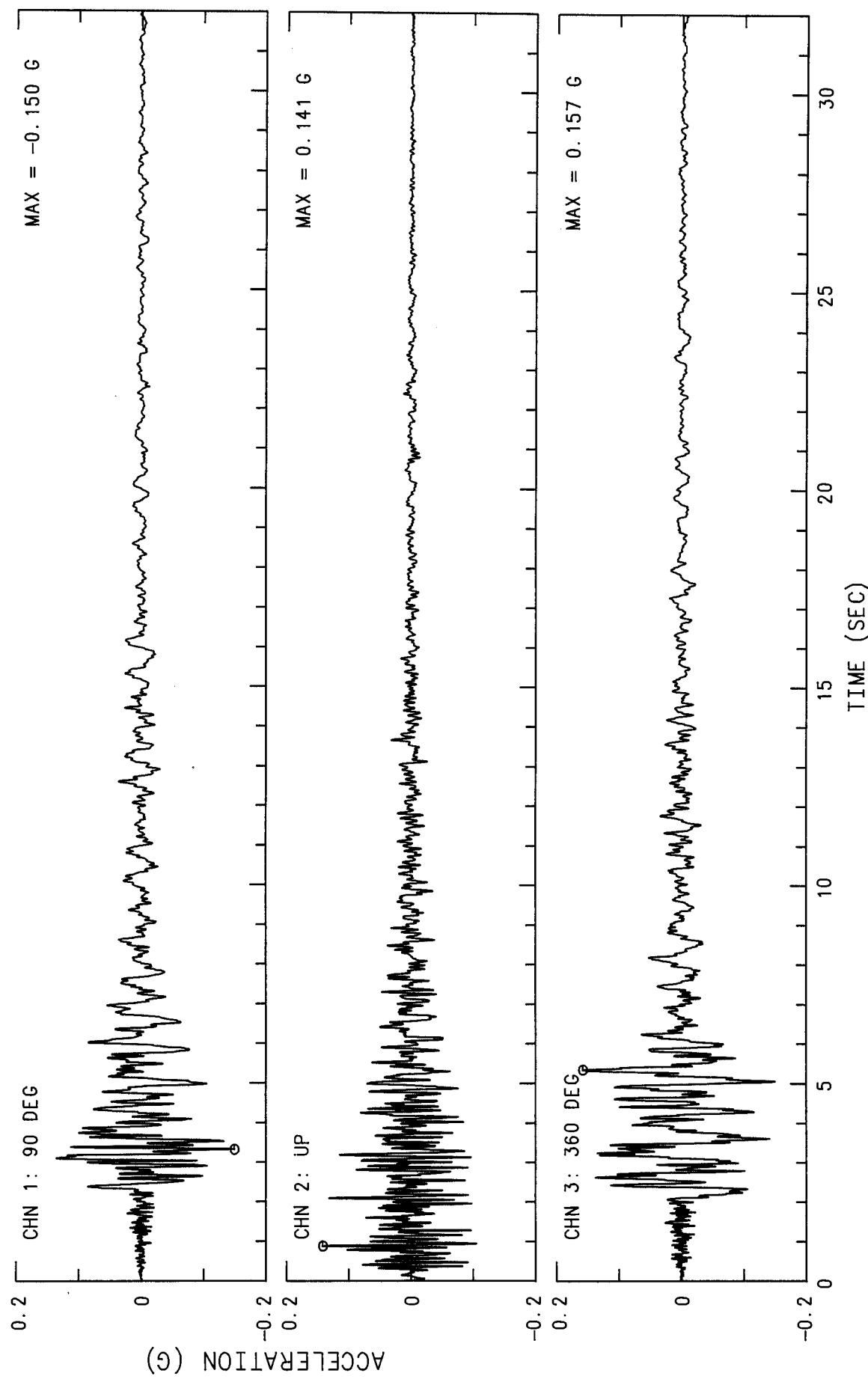
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT

PASADENA - CALTECH MUDD LABORATORY

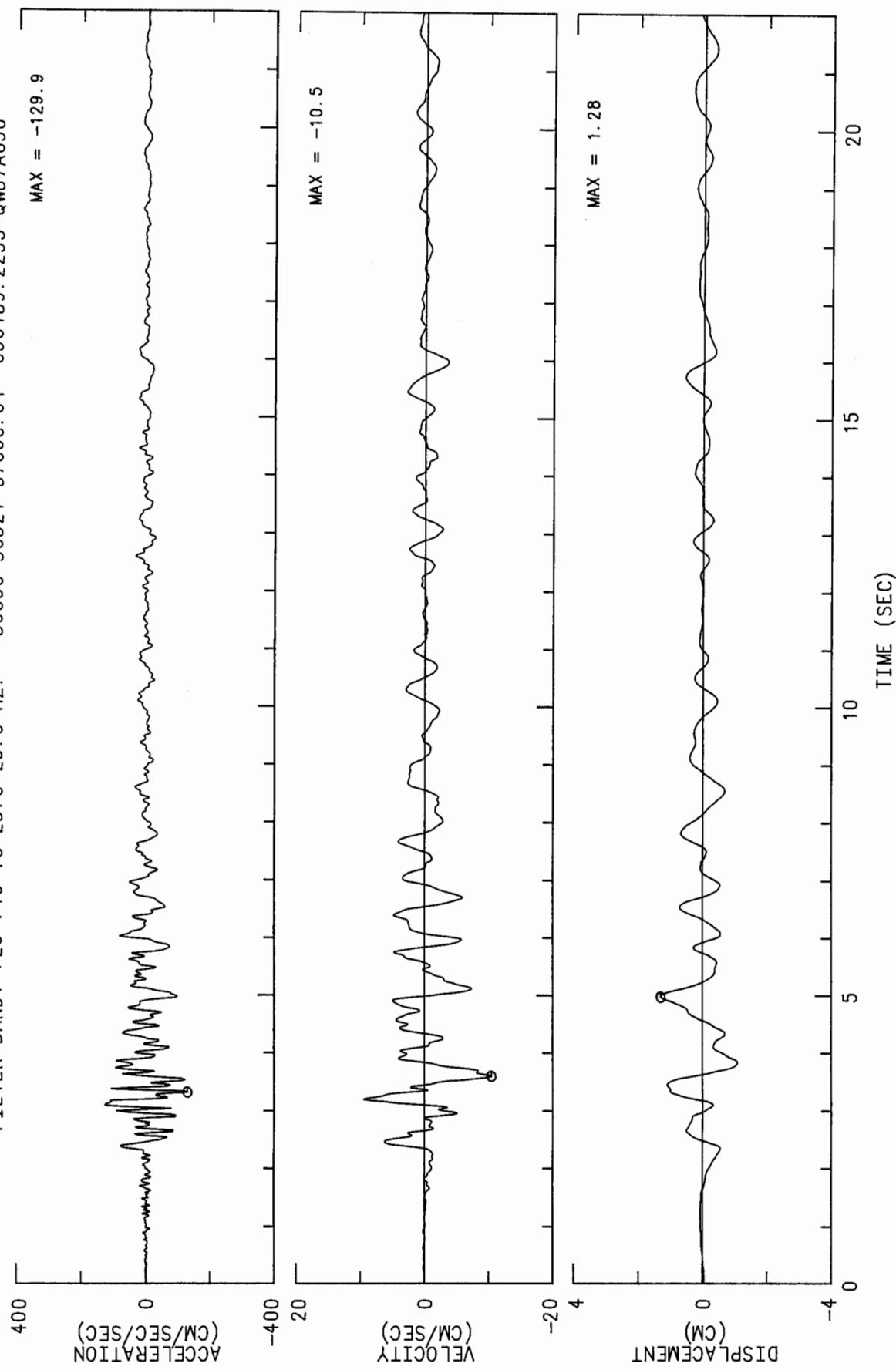
UNCORRECTED ACCELEROMGRAM 80050-S0821-87000.04 042789.1508-QW87A050



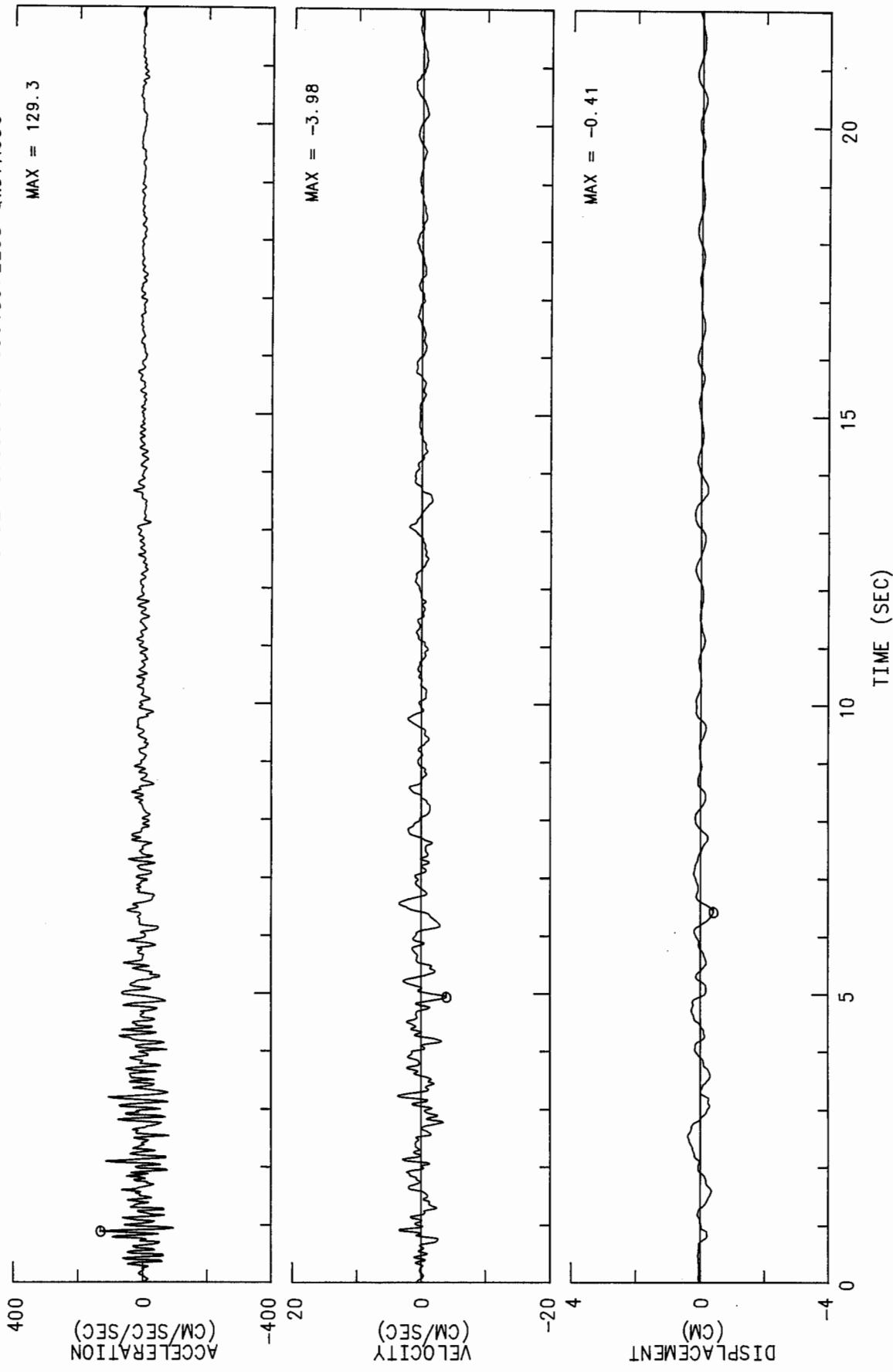
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MUDD LABORATORY
UNCORRECTED ACCELEROMGRAM 80050-S0821-87000.04 042789.1508-QW87A050



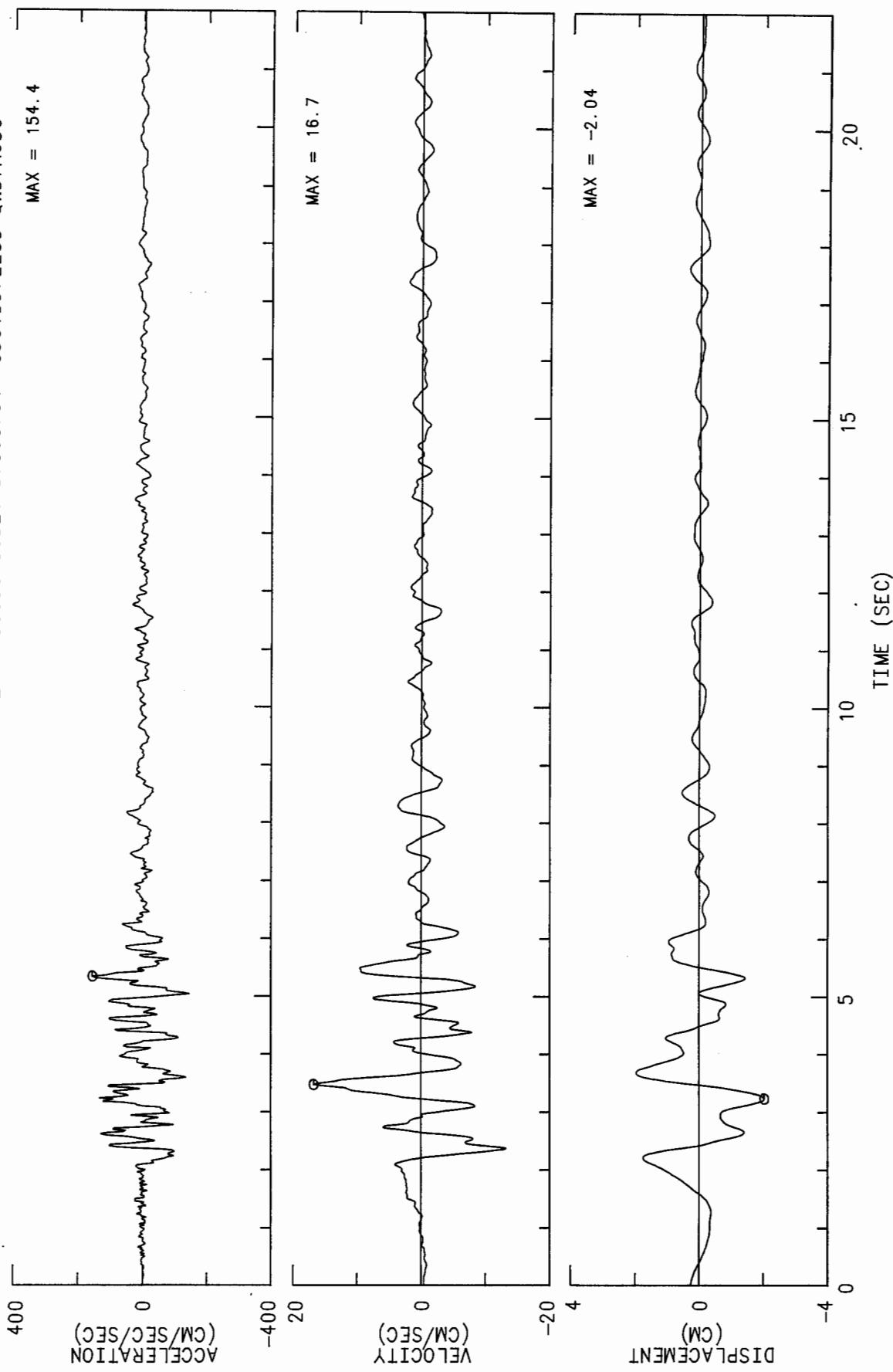
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MUDD LABORATORY CHN 1: 90 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 Hz. 80050-S0821-87000.04 050189.2253-QW87A050



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MUDD LABORATORY CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80050-S0821-87000.04 050189.2253-QW87A050



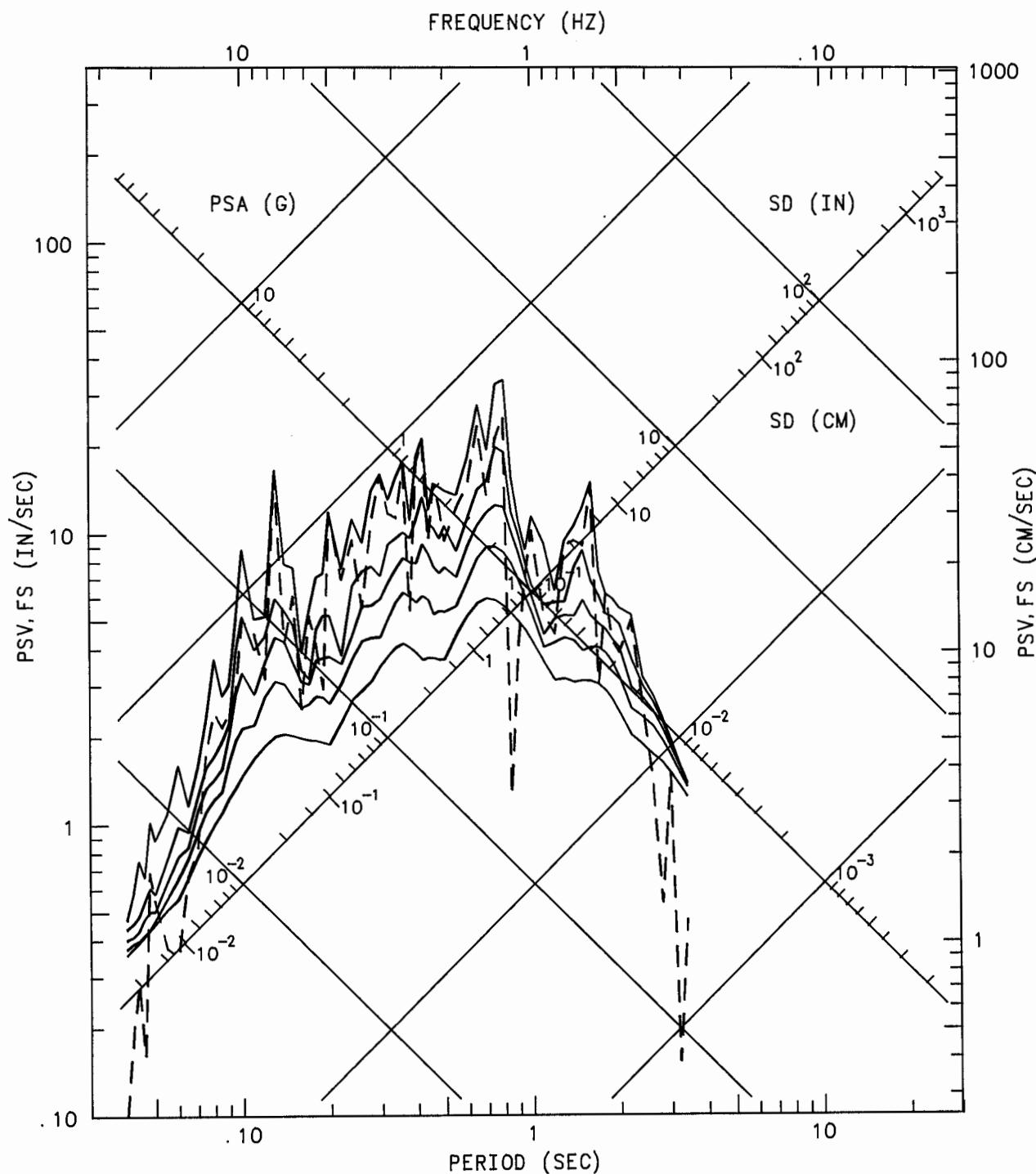
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MUDD LABORATORY CHN 3: 360 DEG
 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80050-S0821-87000.04 050189.2253-QW87A050



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MUDD LABORATORY
 CHN 1: 90 DEG

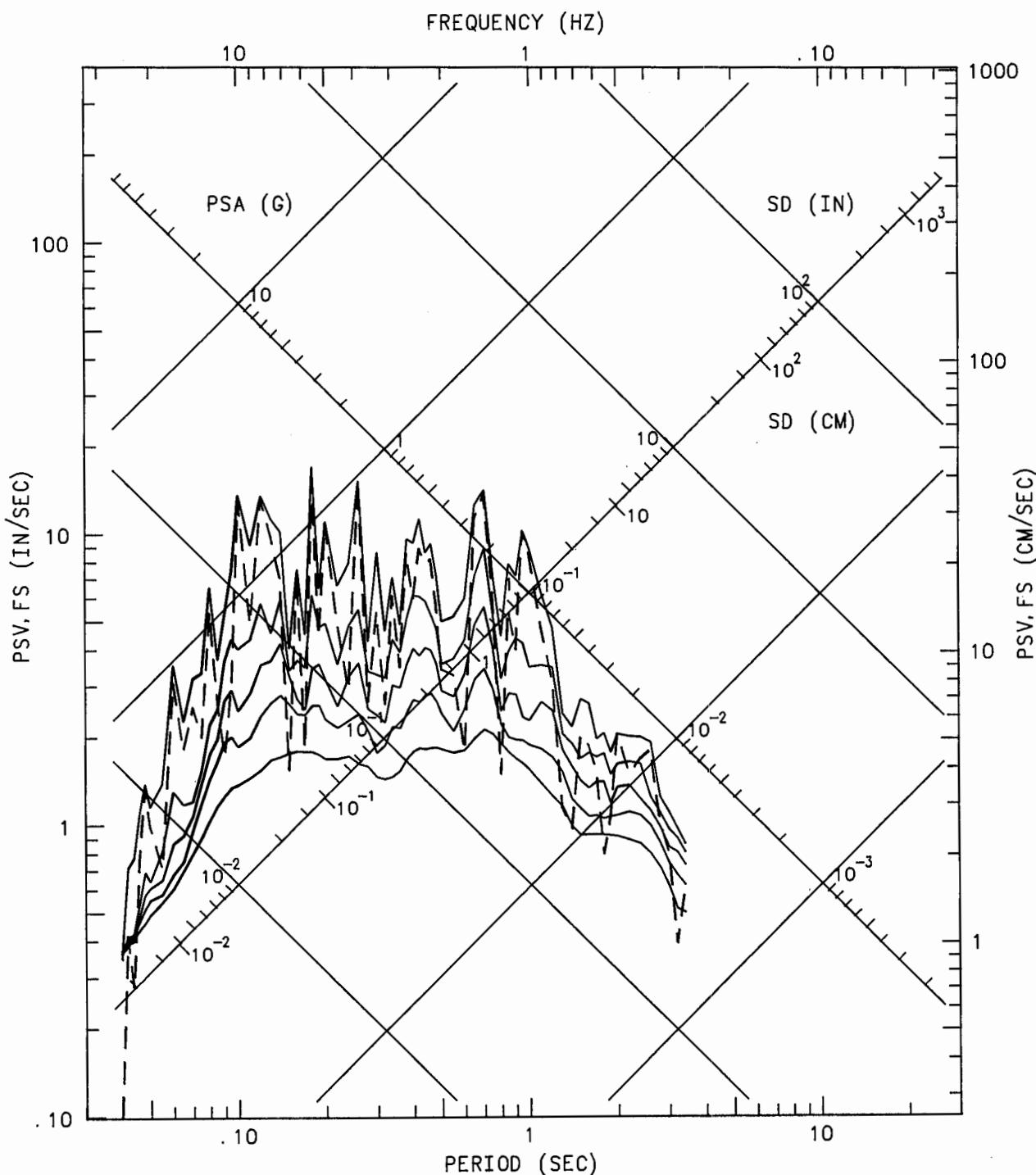
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
 80050-S0821-87000.04 060189.1239-QW87A050

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MUDD LABORATORY
CHN 2: UP
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
80050-S0821-87000.04 060189.1239-QW87A050

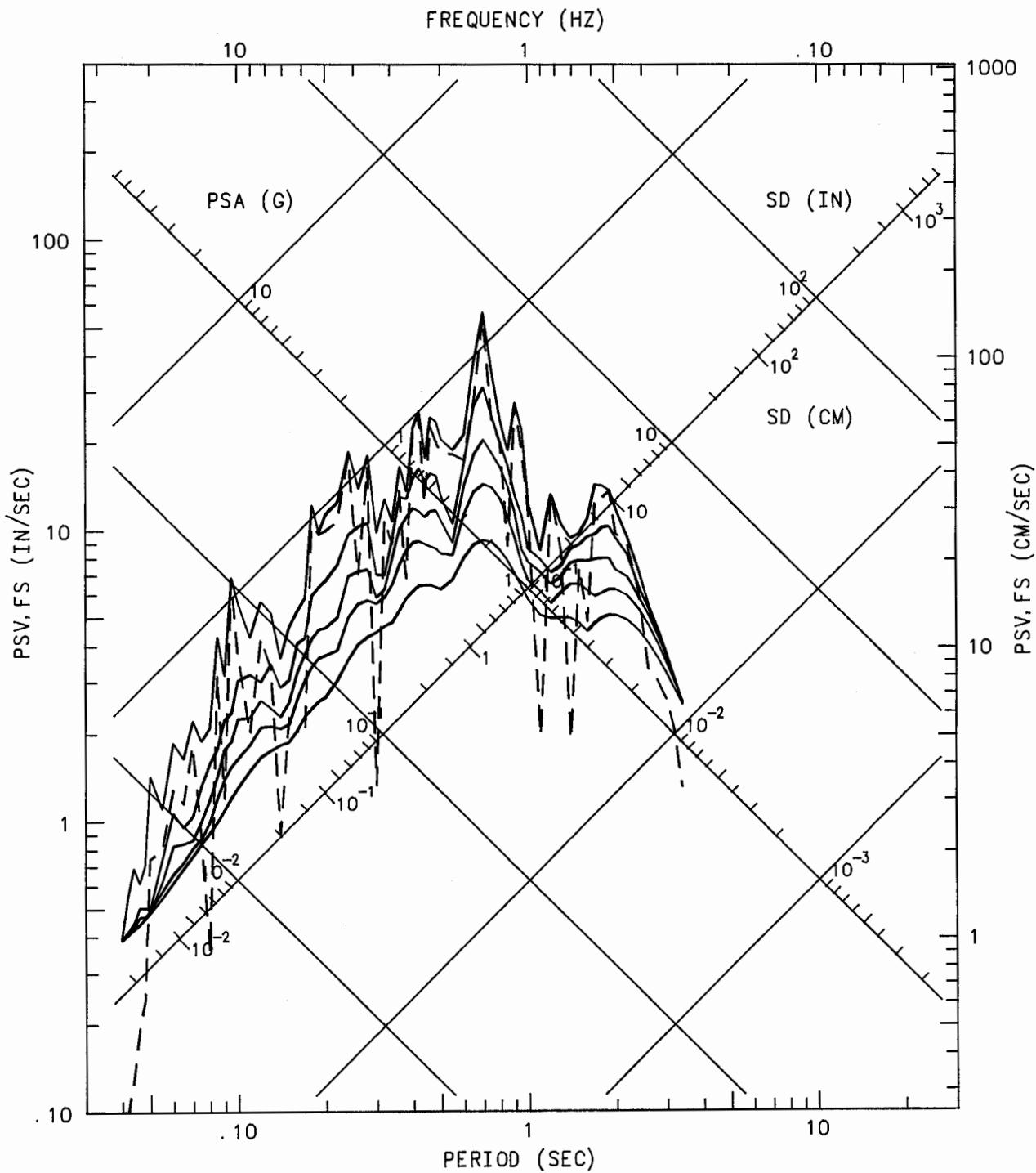
— RESPONSE SPECTRA: PSV, PSA & SD --- FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



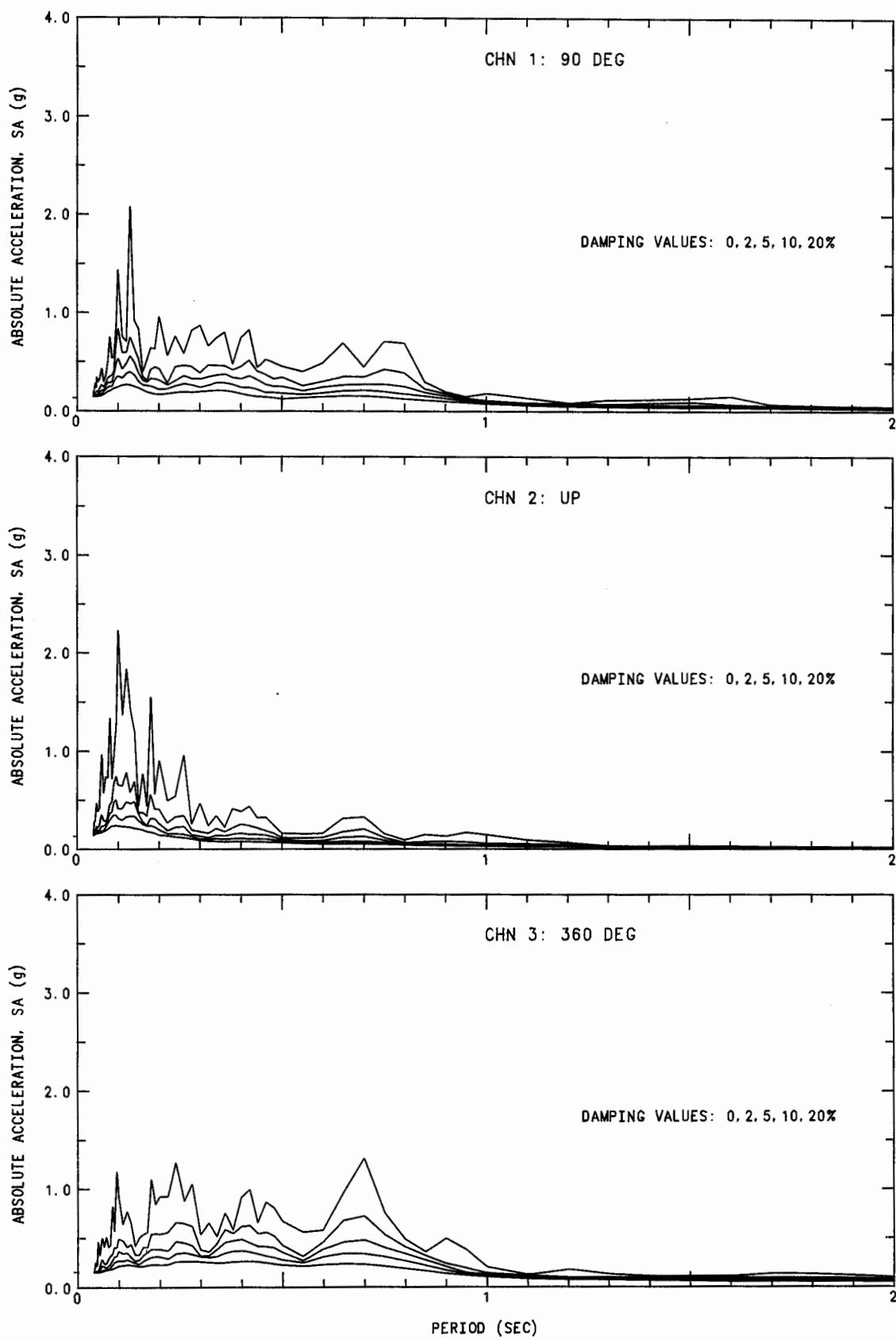
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH MUDD LABORATORY
 CHN 3: 360 DEG

ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80050-S0821-87000.04 060189.1239-QW87A050

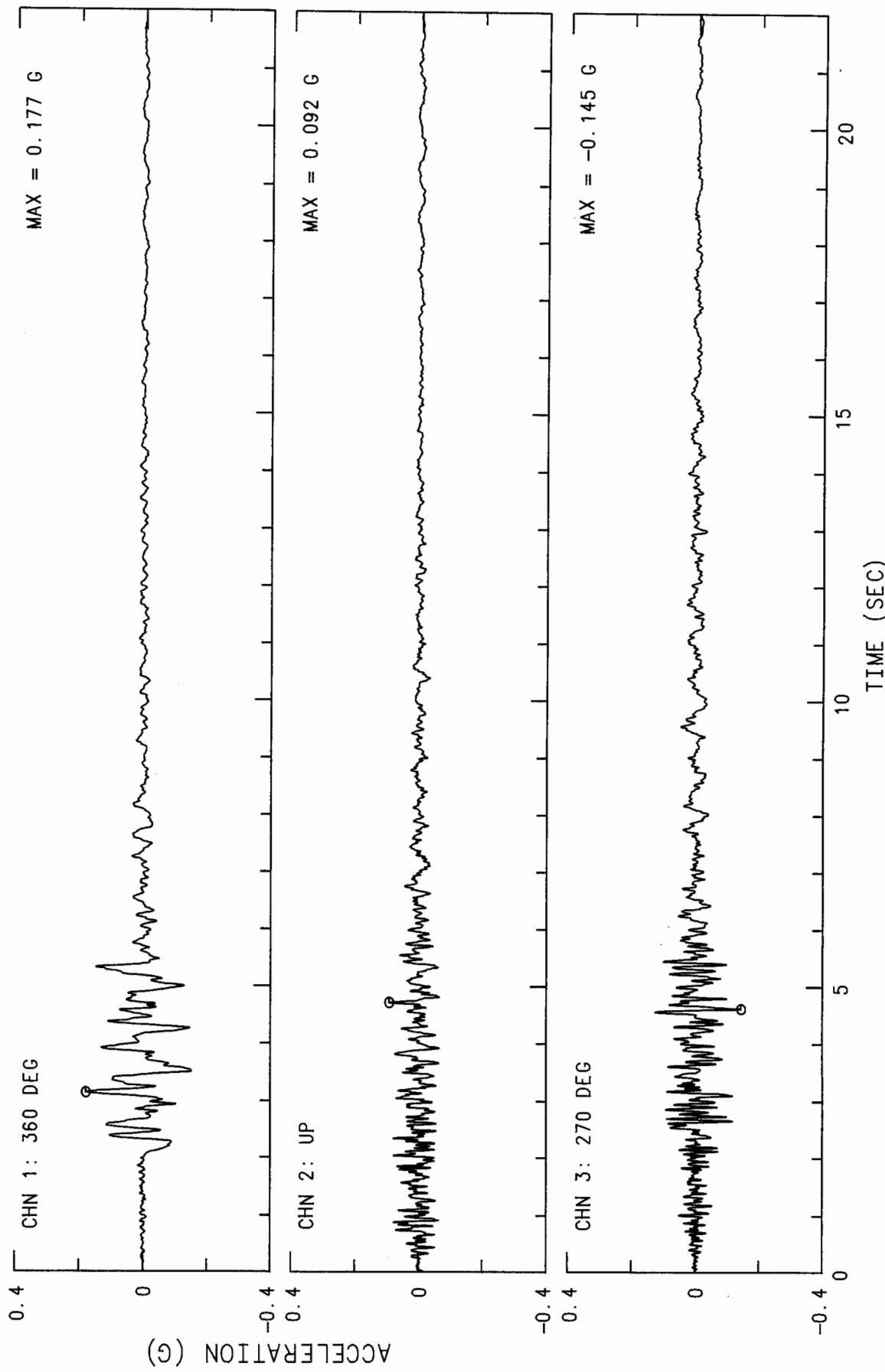
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



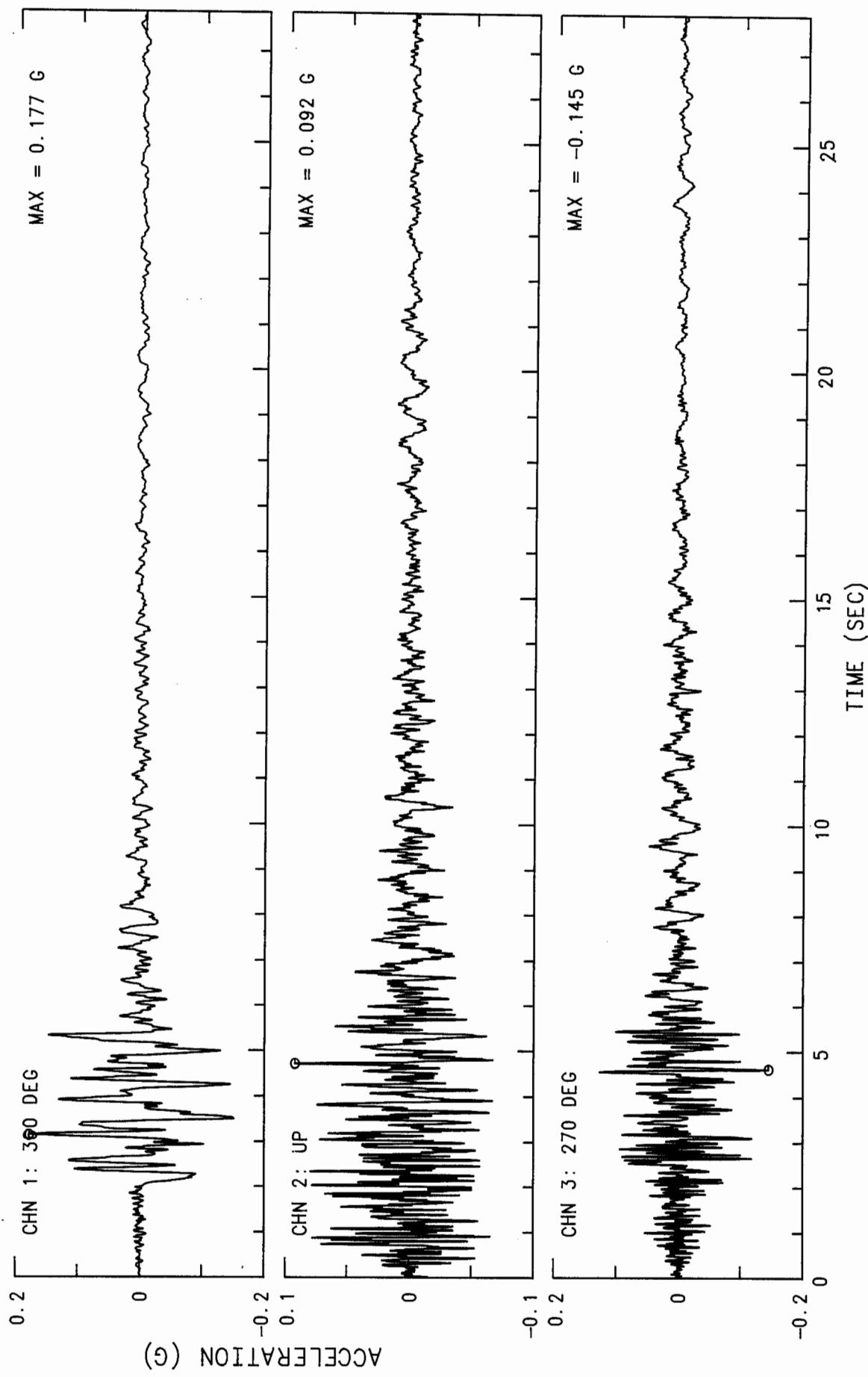
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH MUDD LABORATORY
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80050-S0821-87000.04 060189.1239-QW87A050



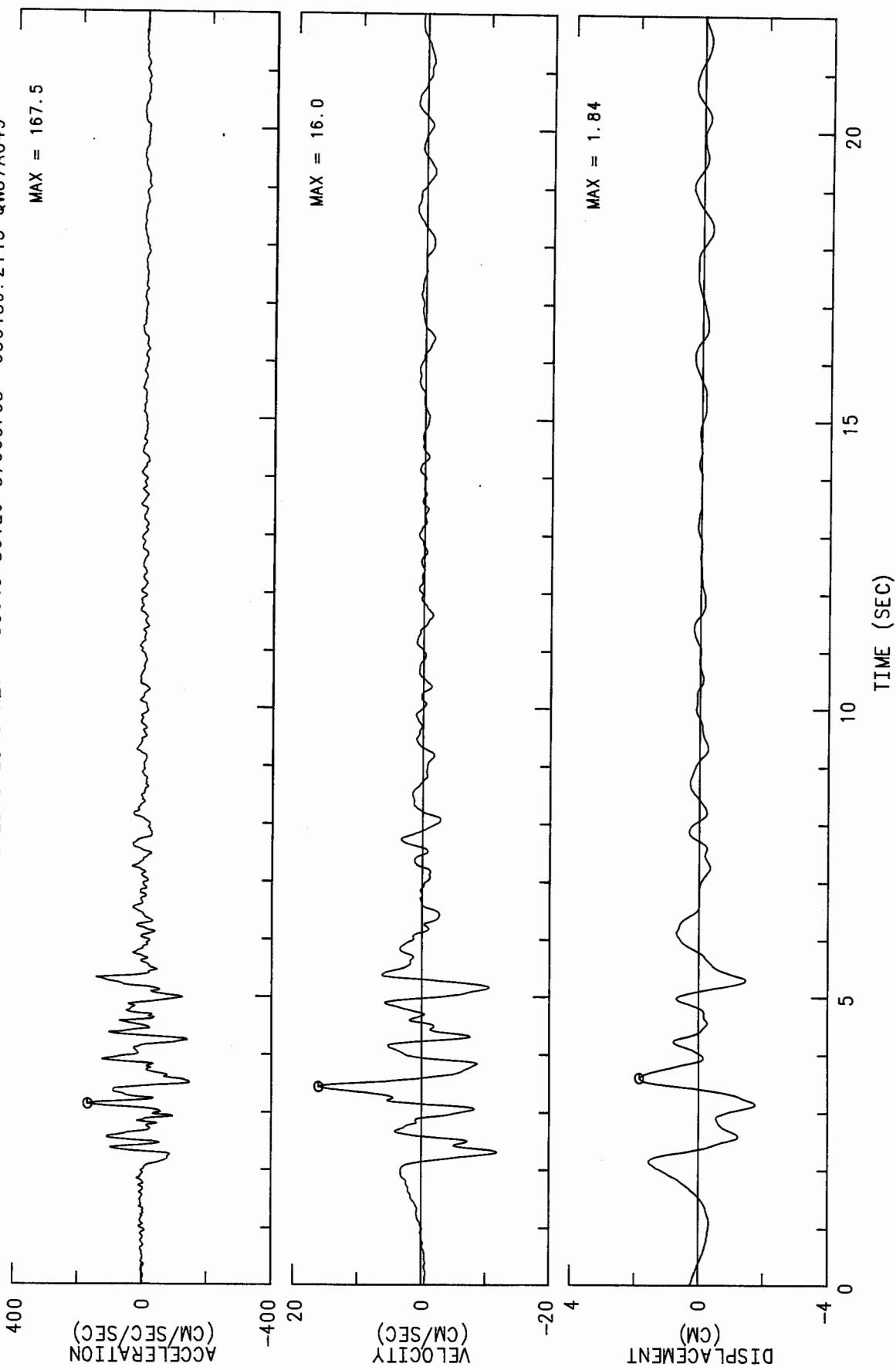
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY
UNCORRECTED ACCELEROMGRAM 80049-S0126-87000.03 042789.1608-QW87A049



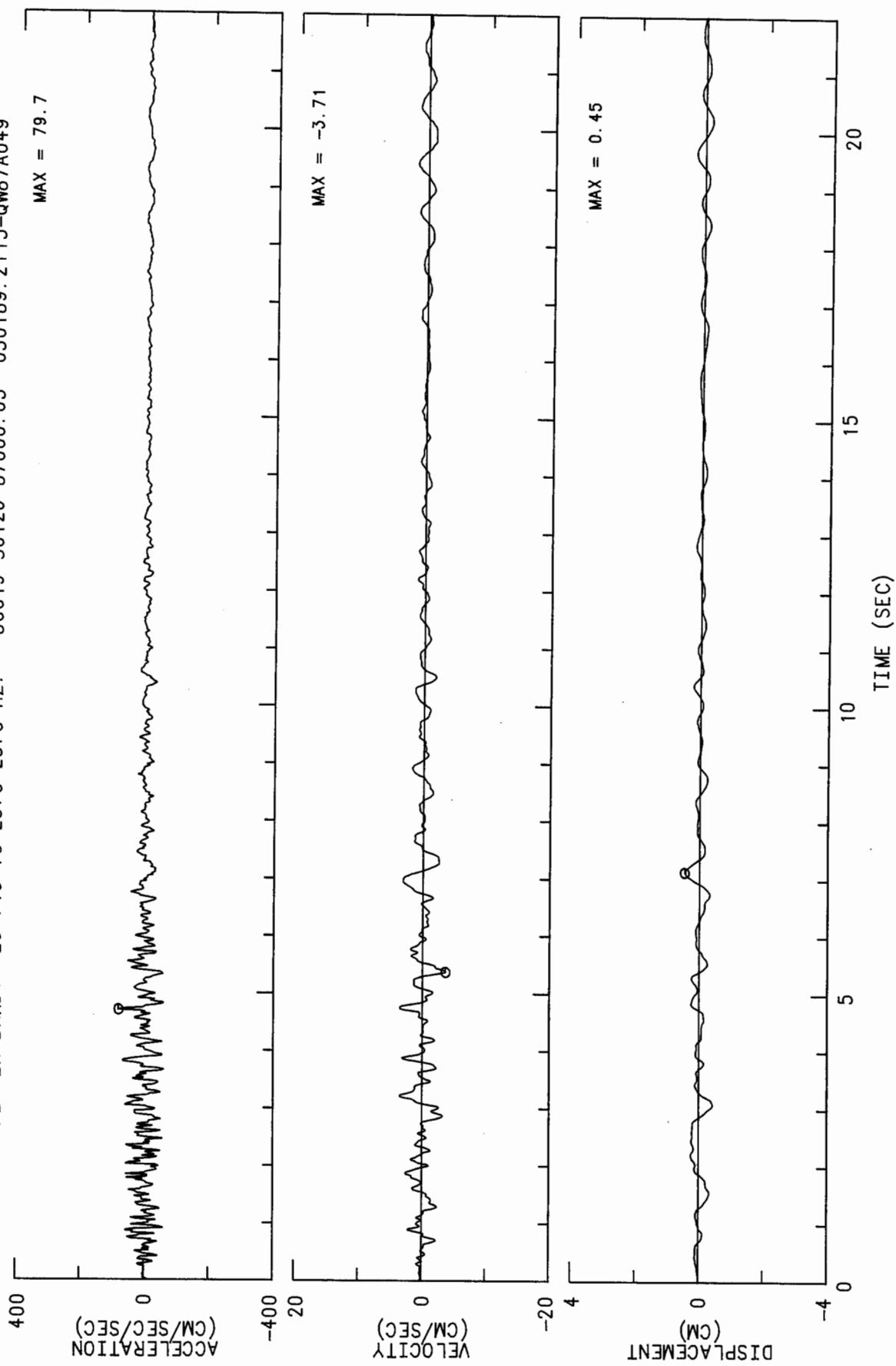
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY
UNCORRECTED ACCELERGRAM 80049-S0126-87000.03 042789.1608-QW87A049



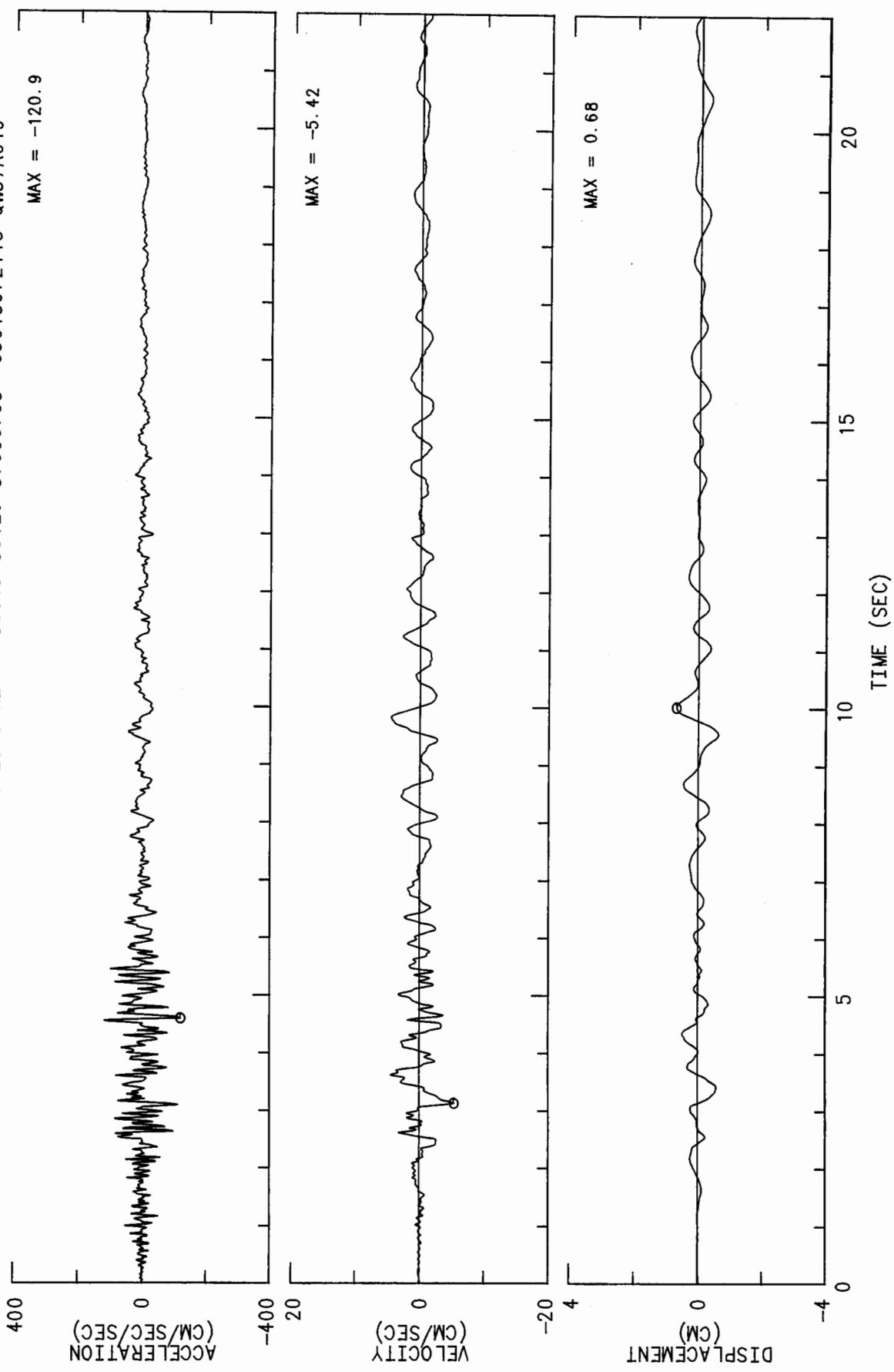
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY CHN 1: 360 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 Hz. 80049-S0126-87000.03 050189.2115-QW87A049



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH KECK LABORATORY CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80049-S0126-87000.03 050189.2115-QW87A049

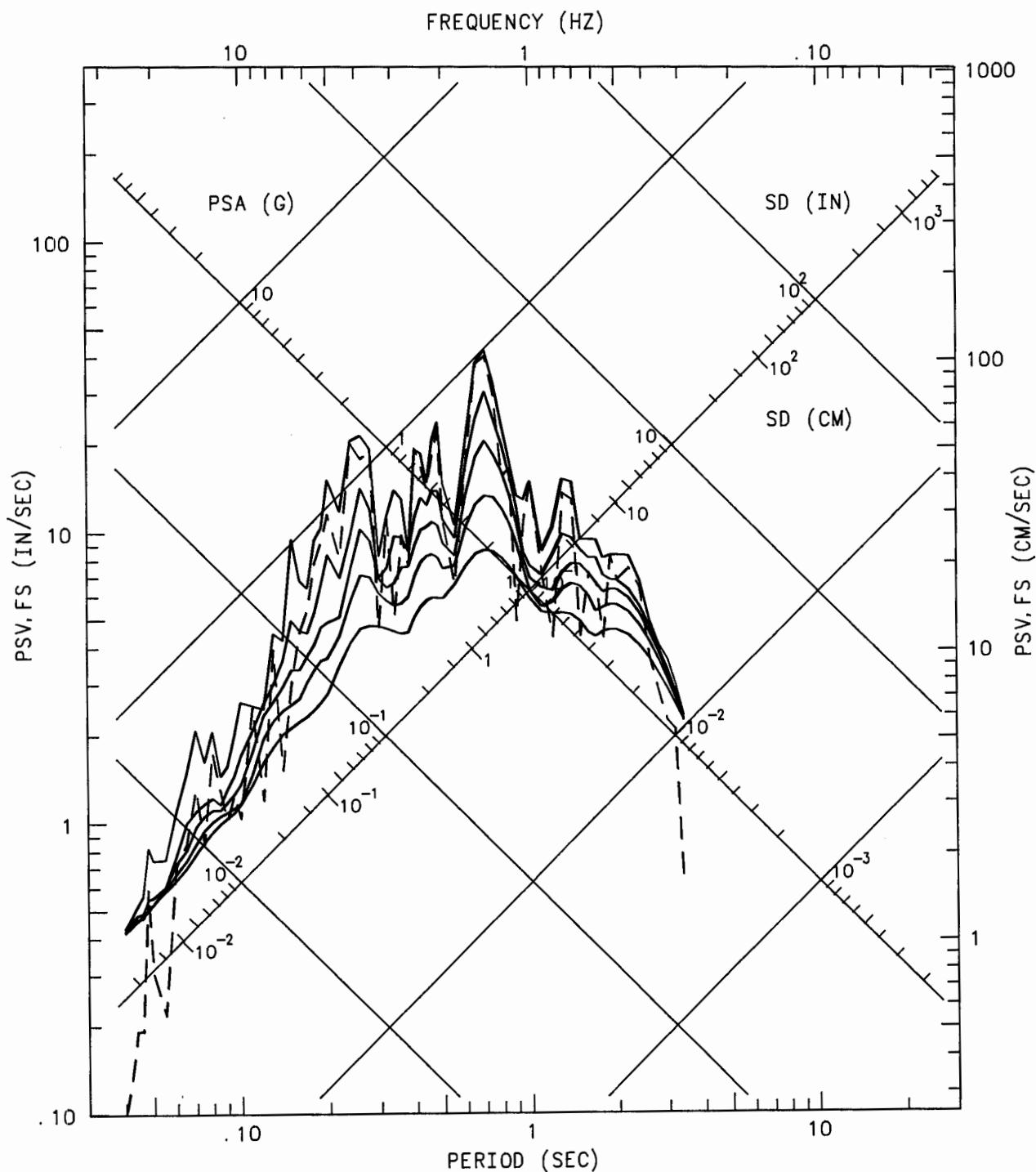


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY CHN 3: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80049-S0126-87000.03 050189.2115-QW87A049



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH KECK LABORATORY
 CHN 1: 360 DEG
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
 80049-S0126-87000.03 060189.1228-QW87A049

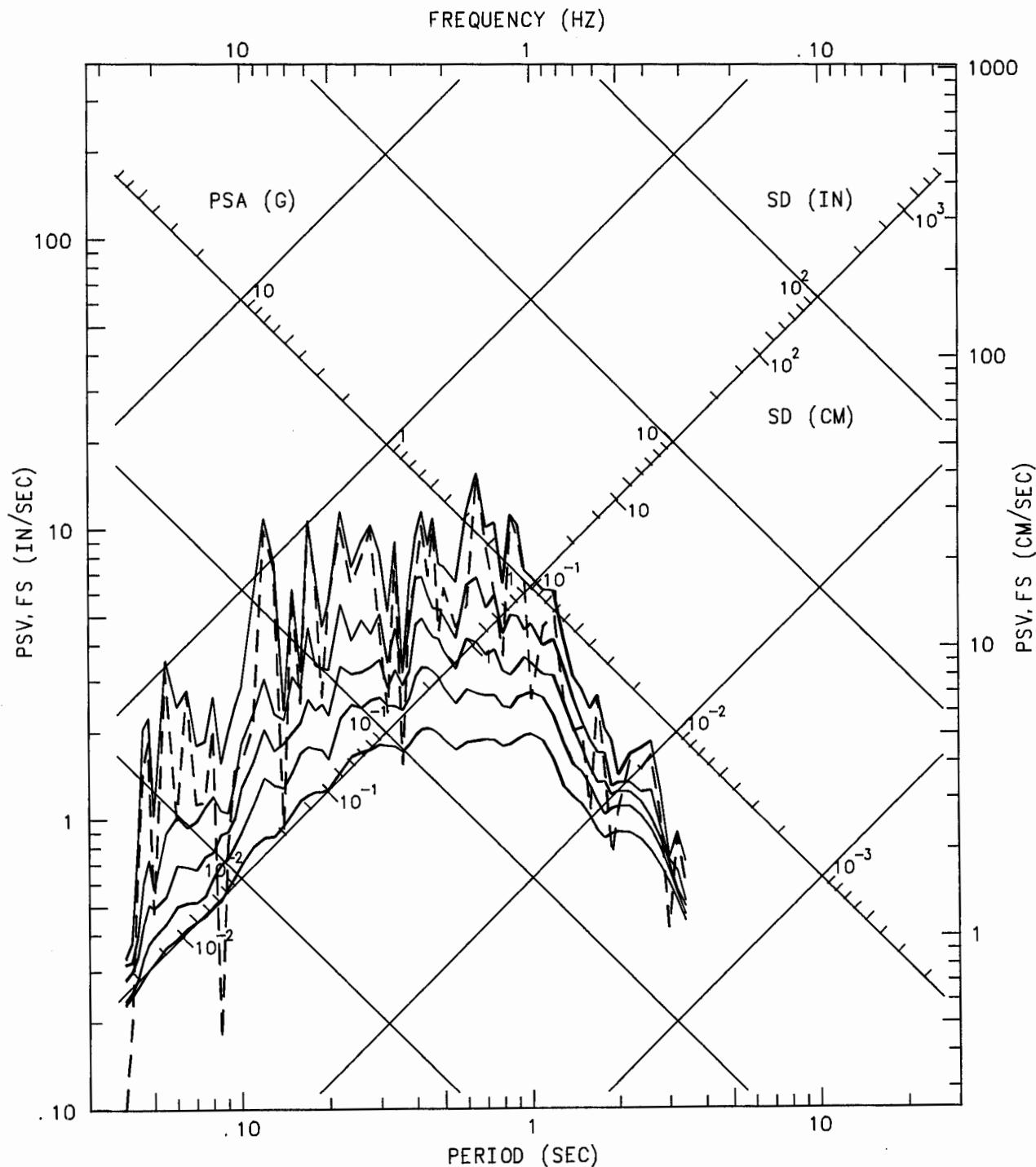
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY
CHN 2: UP

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
80049-S0126-87000.03 060189.1228-QW87A049

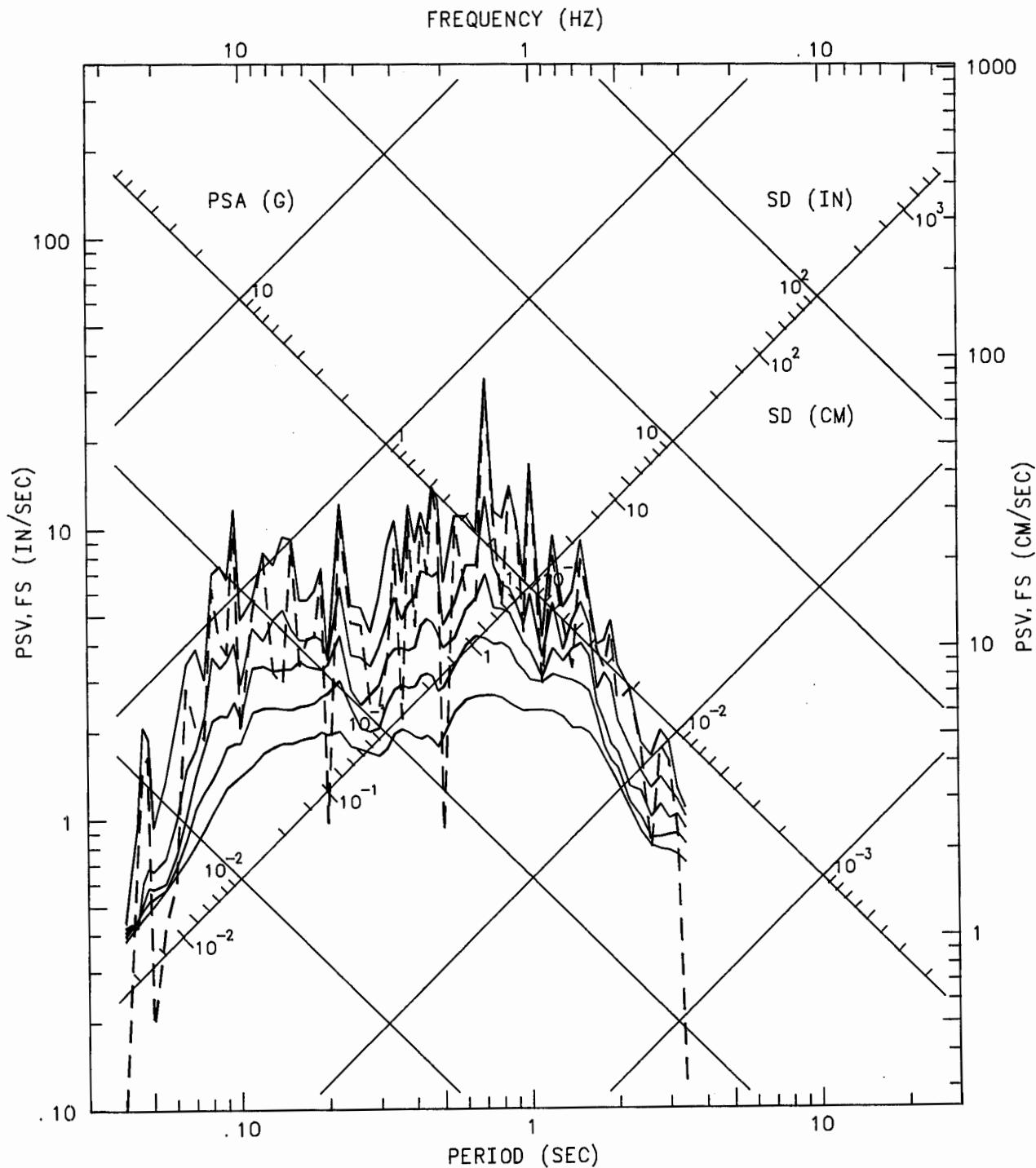
— RESPONSE SPECTRA: PSV, PSA & SD —— FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



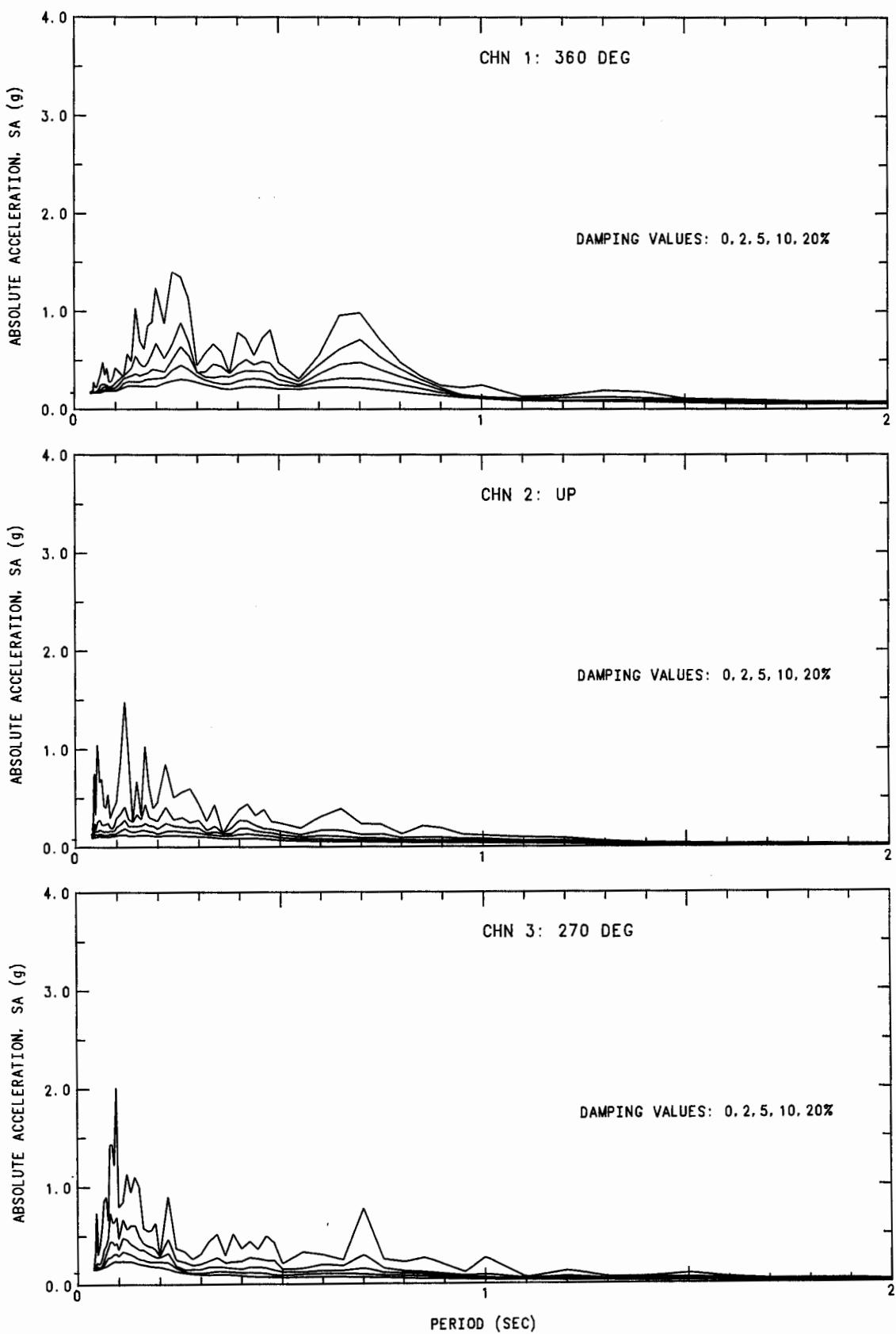
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY
CHN 3: 270 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
80049-S0126-87000.03 060189.1228-QW87A049

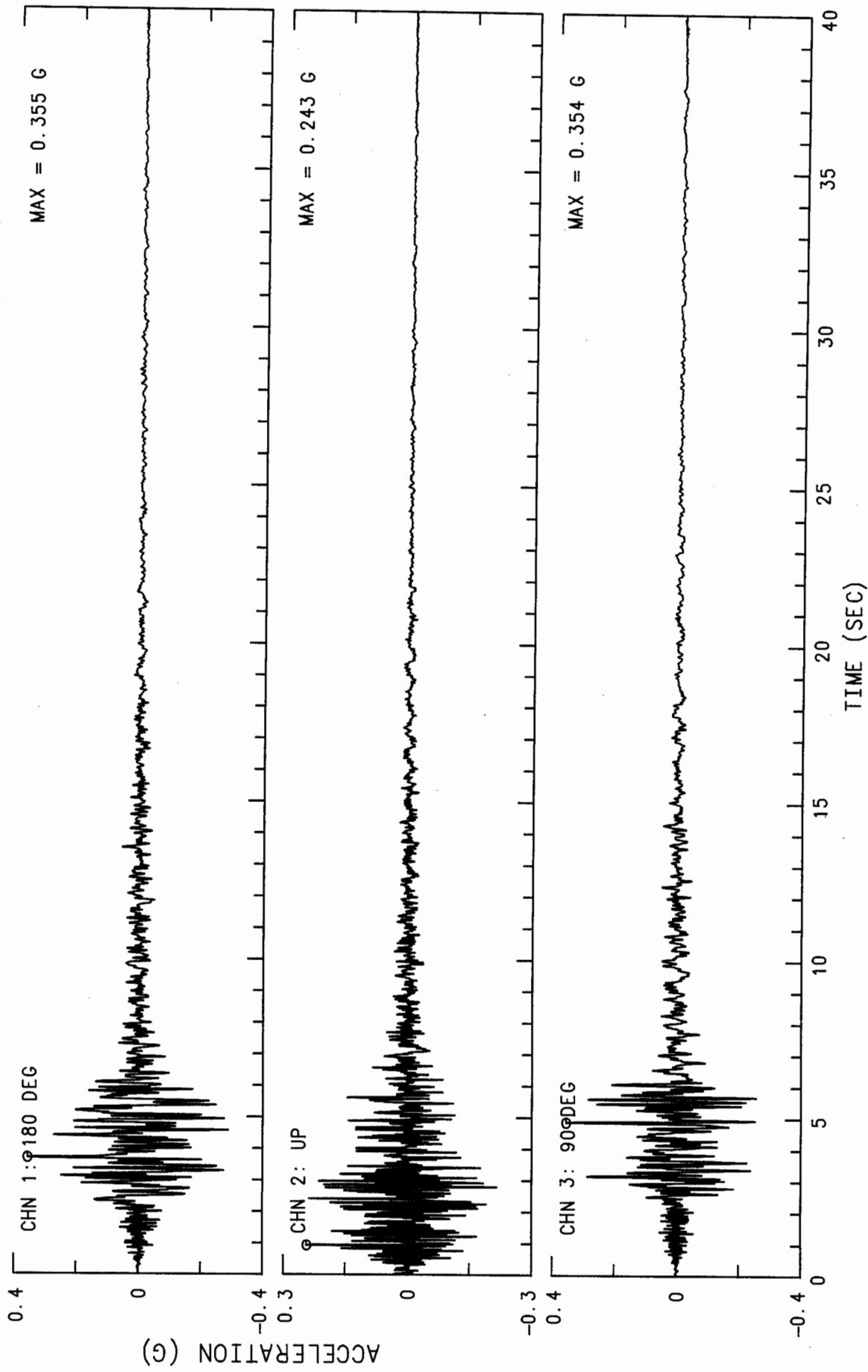
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



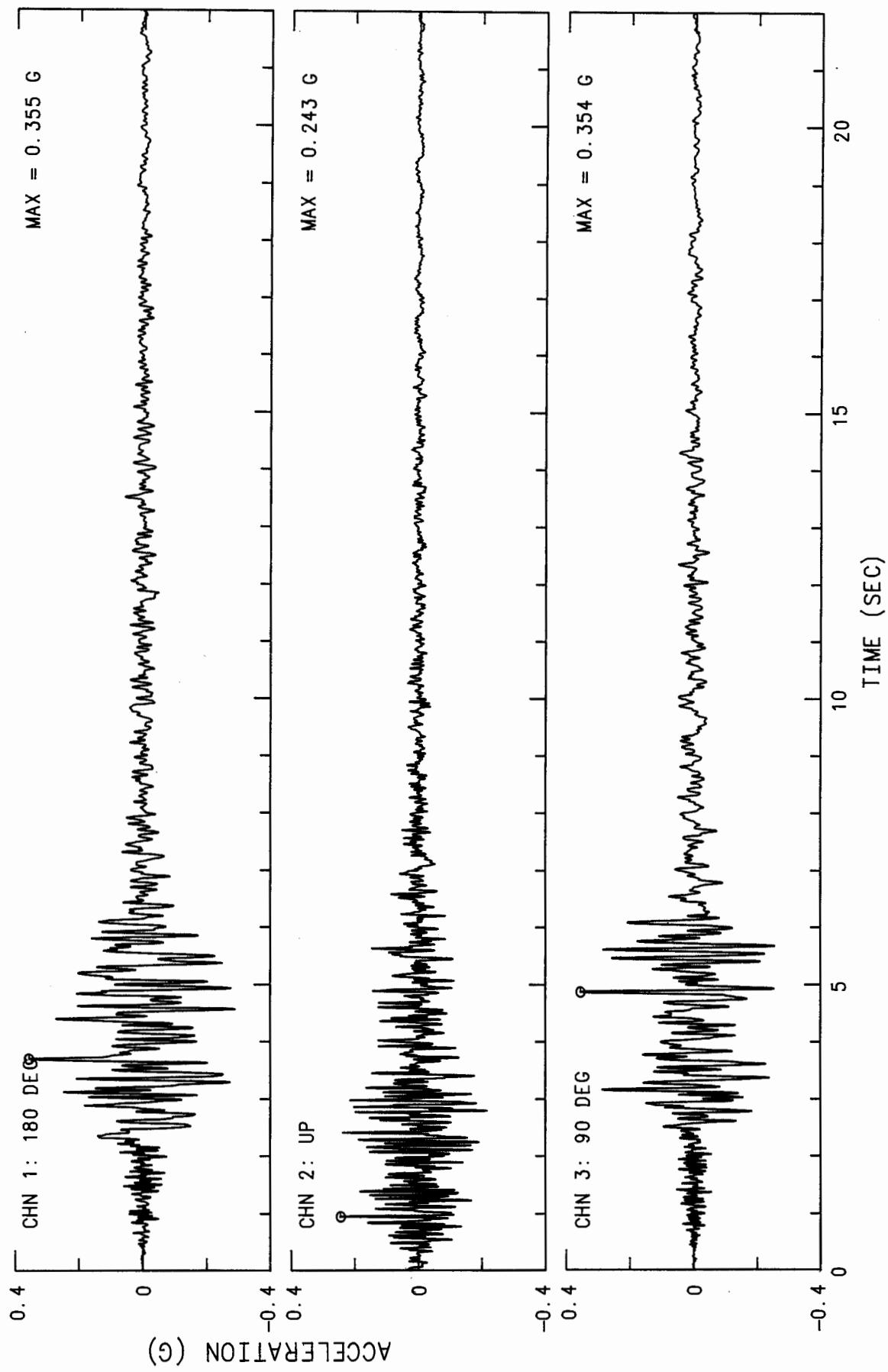
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH KECK LABORATORY
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80049-S0126-87000.03 060189.1228-QW87A049



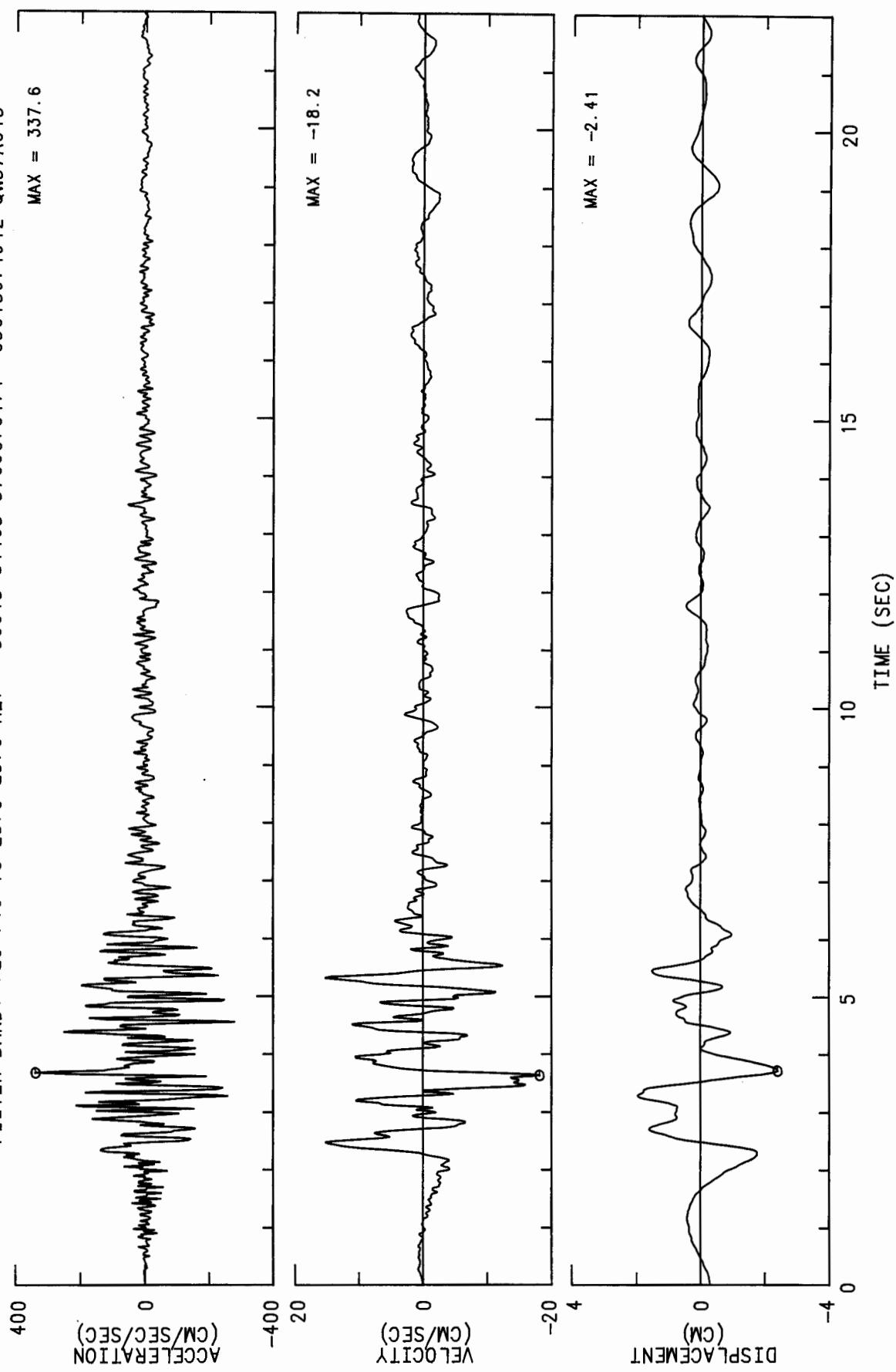
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH LURA STREET HOUSE
UNCORRECTED ACCELERGRAM 80048-S1468-87000.01.1 042889.0849-QW87A048

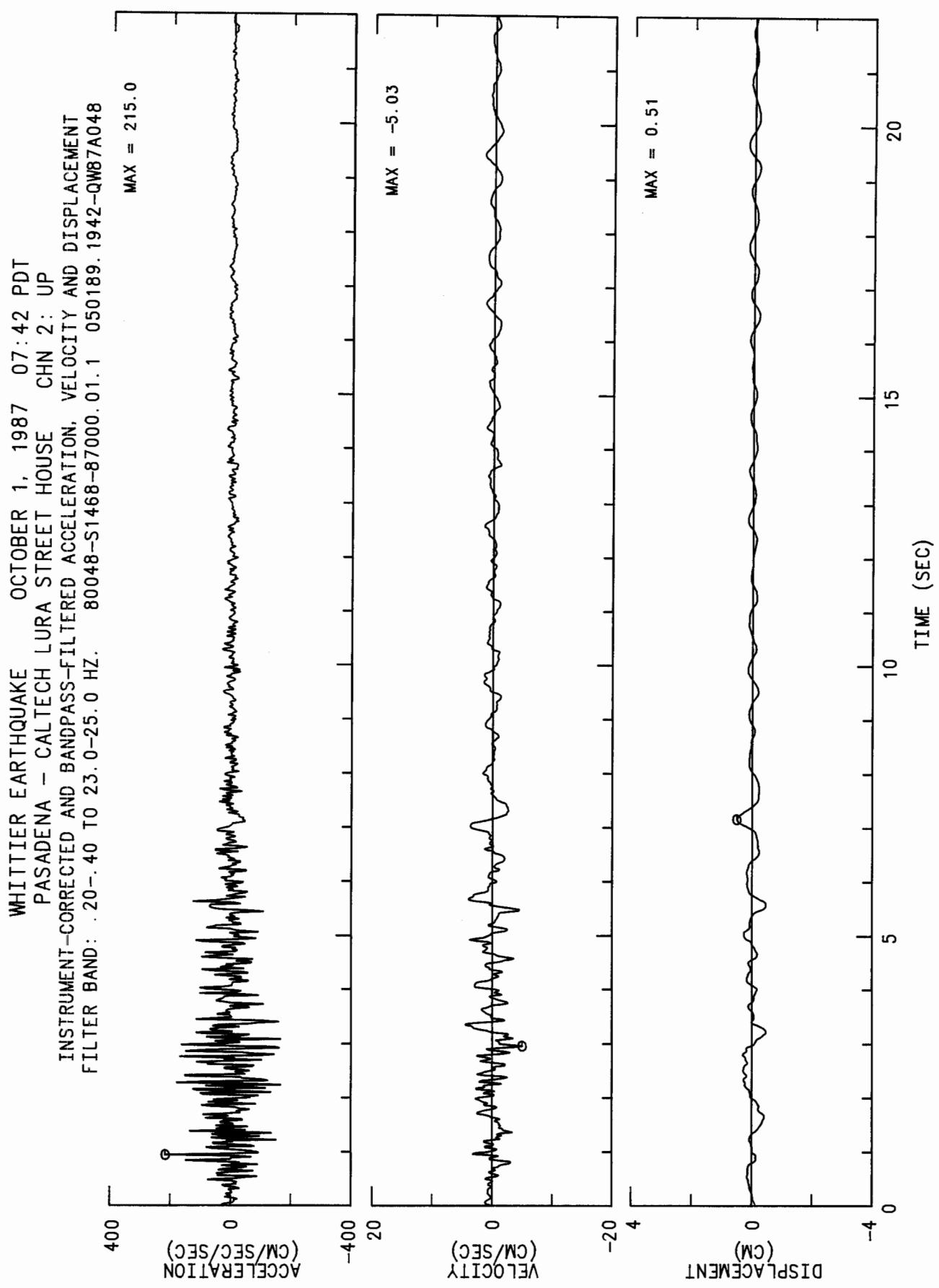


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH LURA STREET HOUSE
UNCORRECTED ACCELEROMGRAM 80048-S1468-87000.01.1 042889.0849-QWB7A048

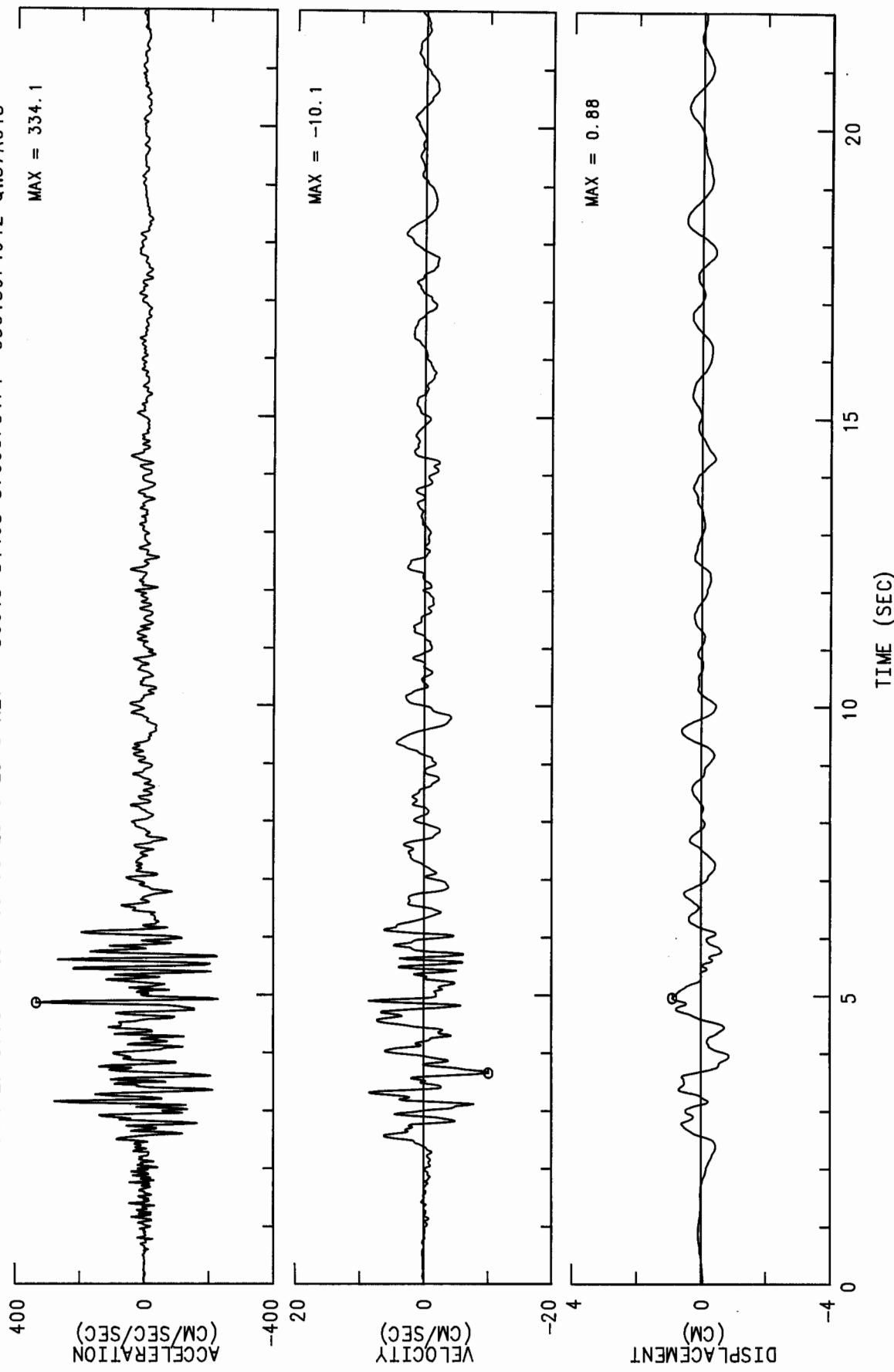


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH LURA STREET HOUSE CHN 1: 180 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80048-S1468-87000.01.1 050189.1942-QW87A048





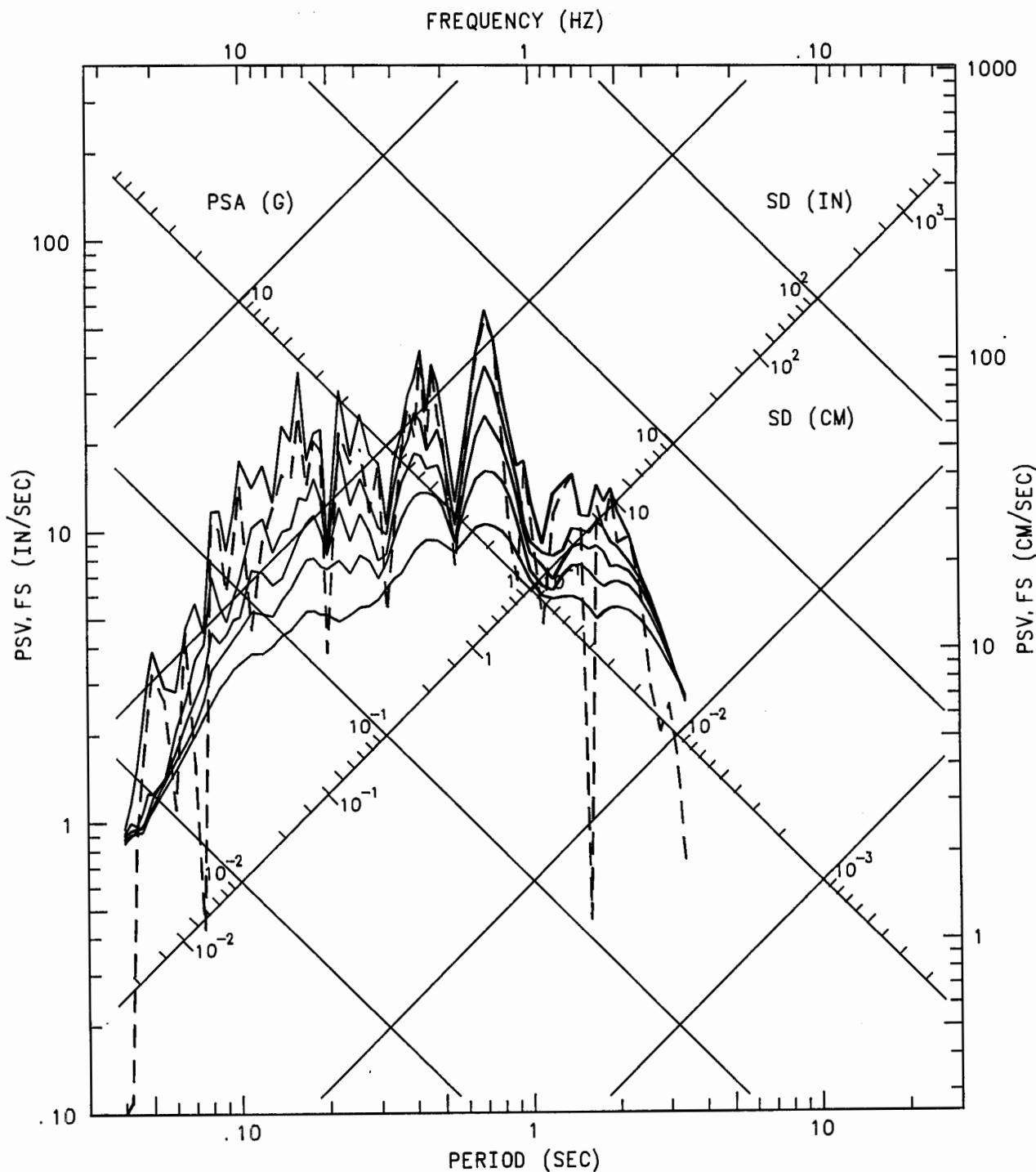
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH LURA STREET HOUSE CHN 3: 90 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80048-S1468-87000.01.1 050189.1942-QW87A048



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH LURA STREET HOUSE
 CHN 1: 180 DEG

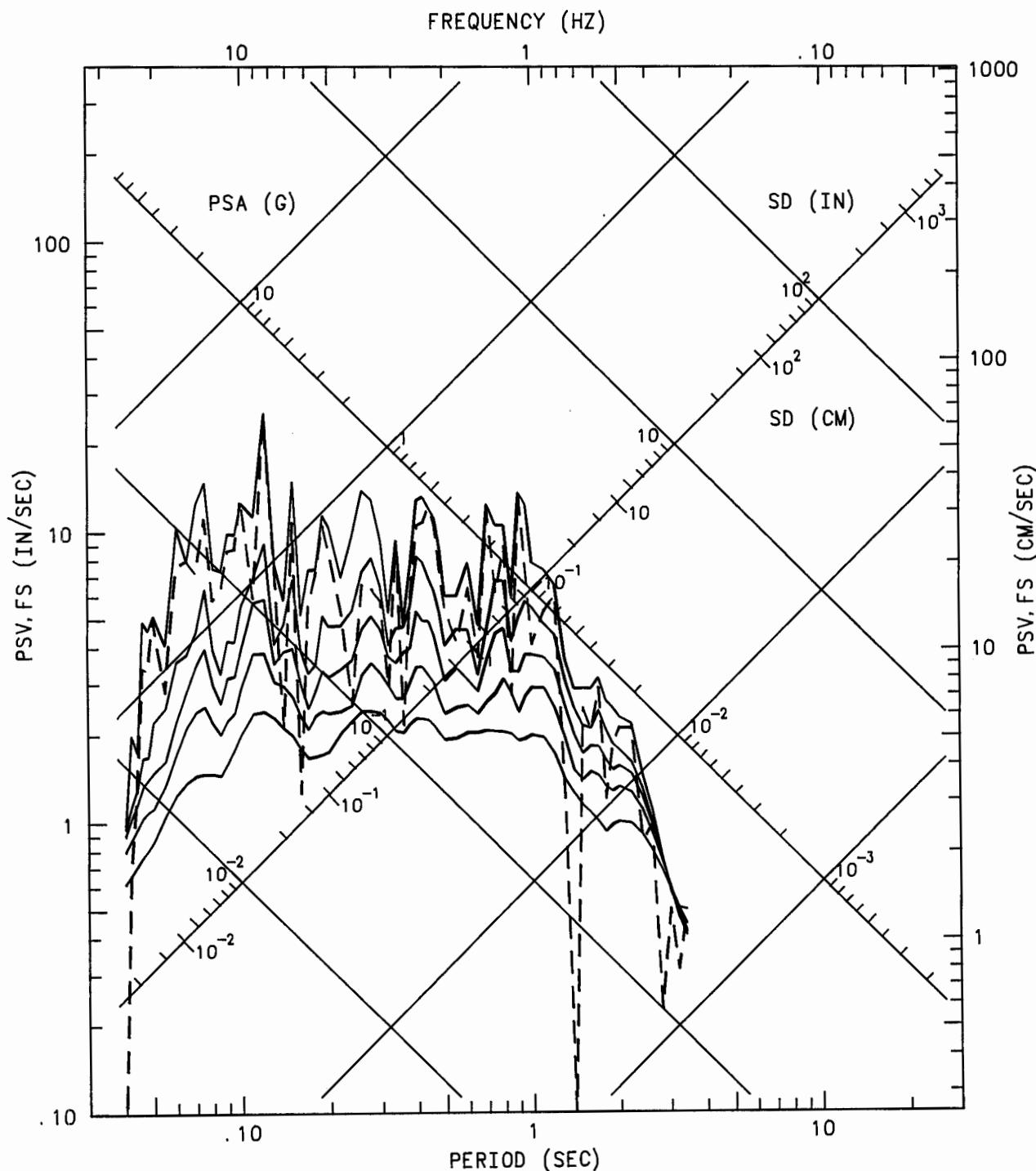
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80048-S1468-87000.01.1 060189.1206-QW87A048

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH LURA STREET HOUSE
CHN 2: UP
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80048-S1468-87000.01.1 060189.1206-QW87A048

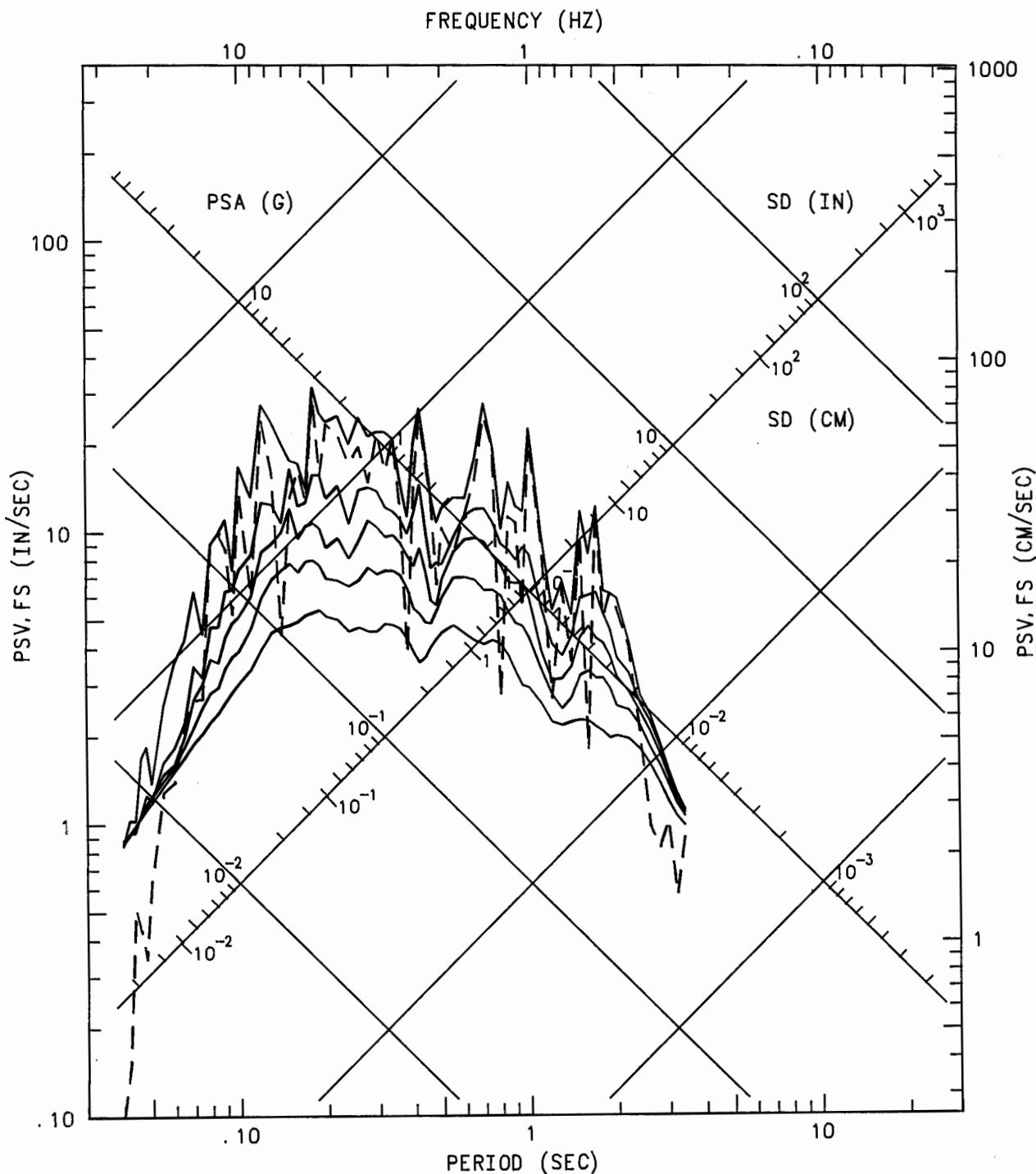
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%



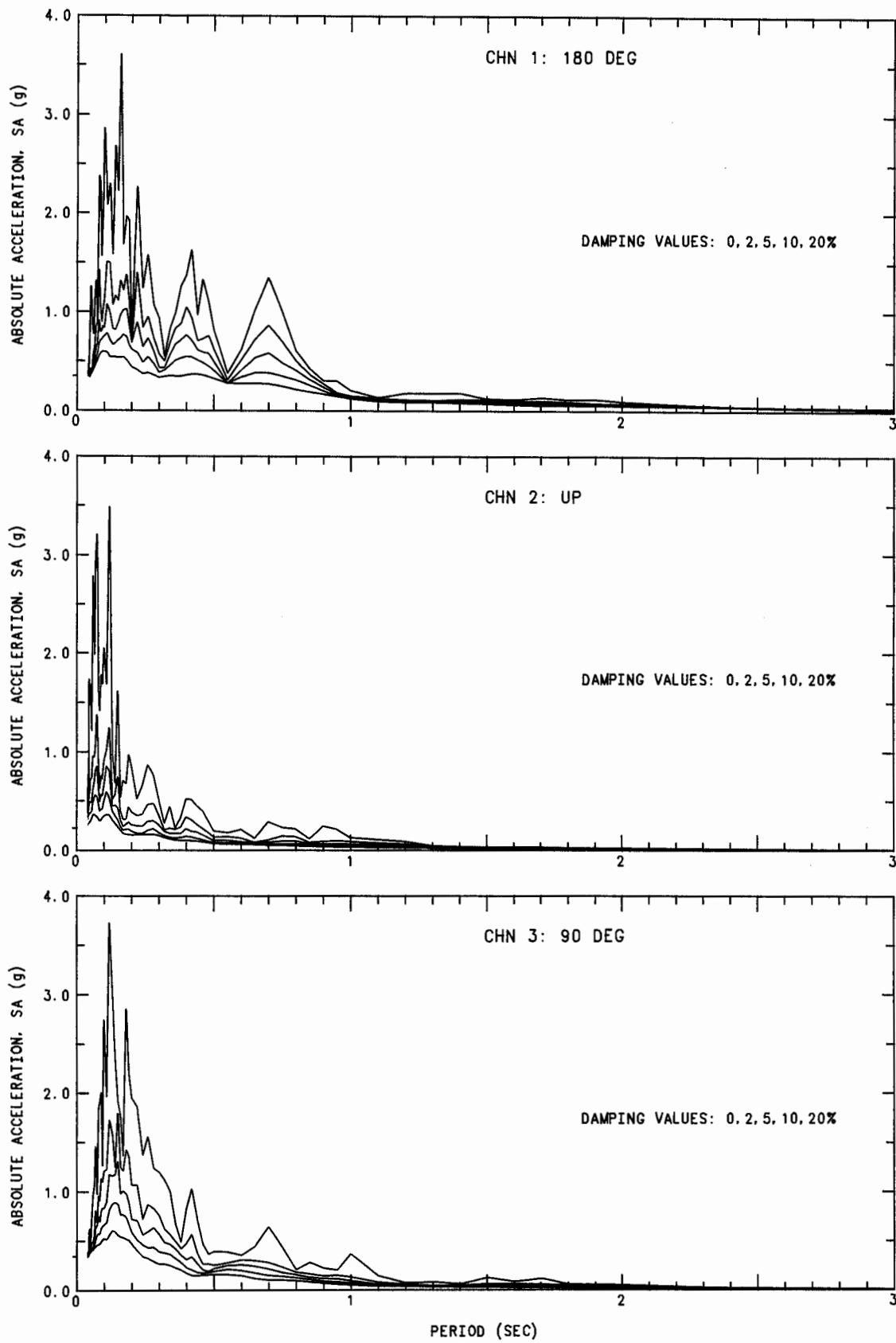
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH LURA STREET HOUSE
 CHN 3: 90 DEG

ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
 80048-S1468-87000.01.1 060189.1206-QW87A048

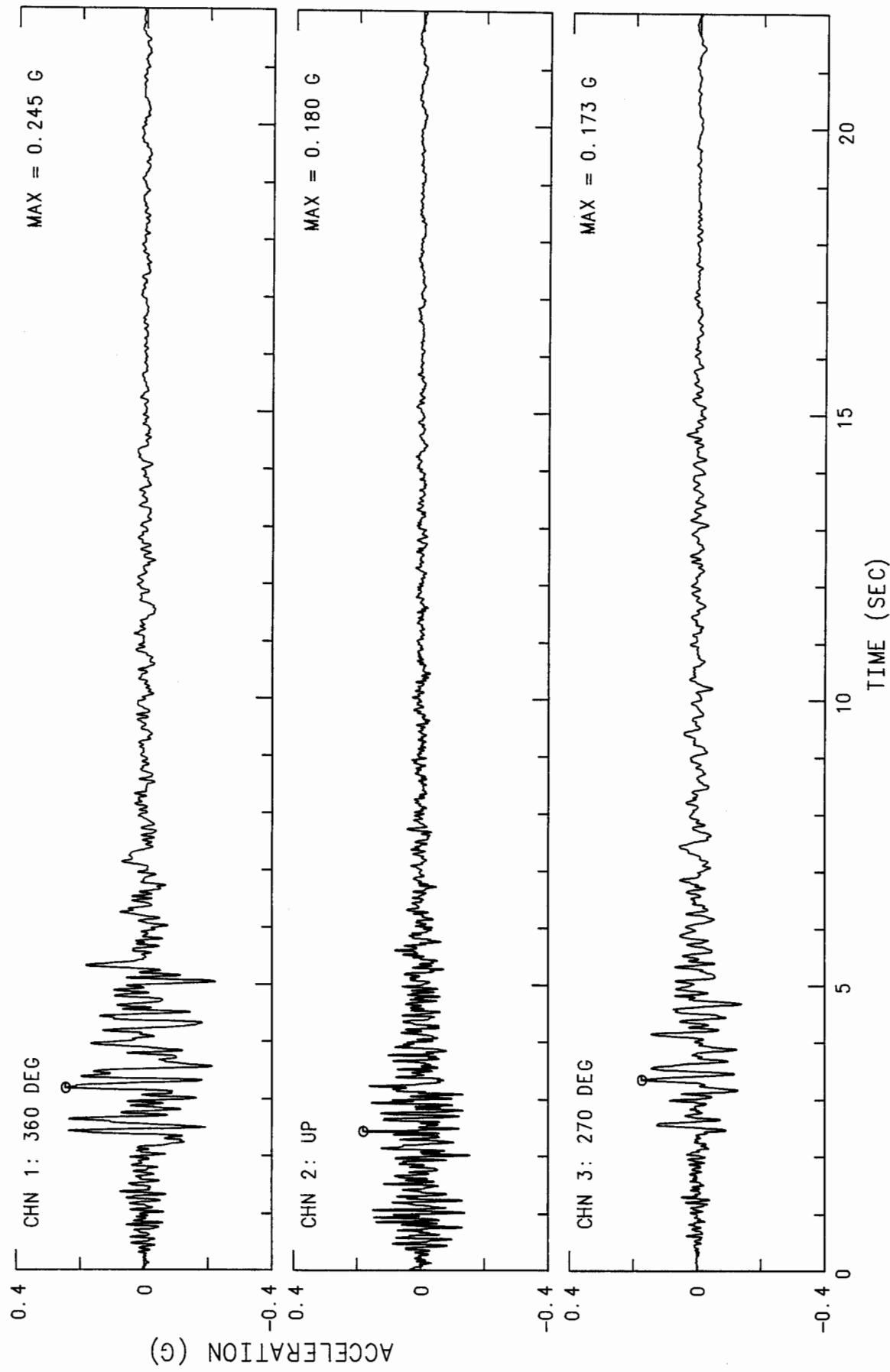
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



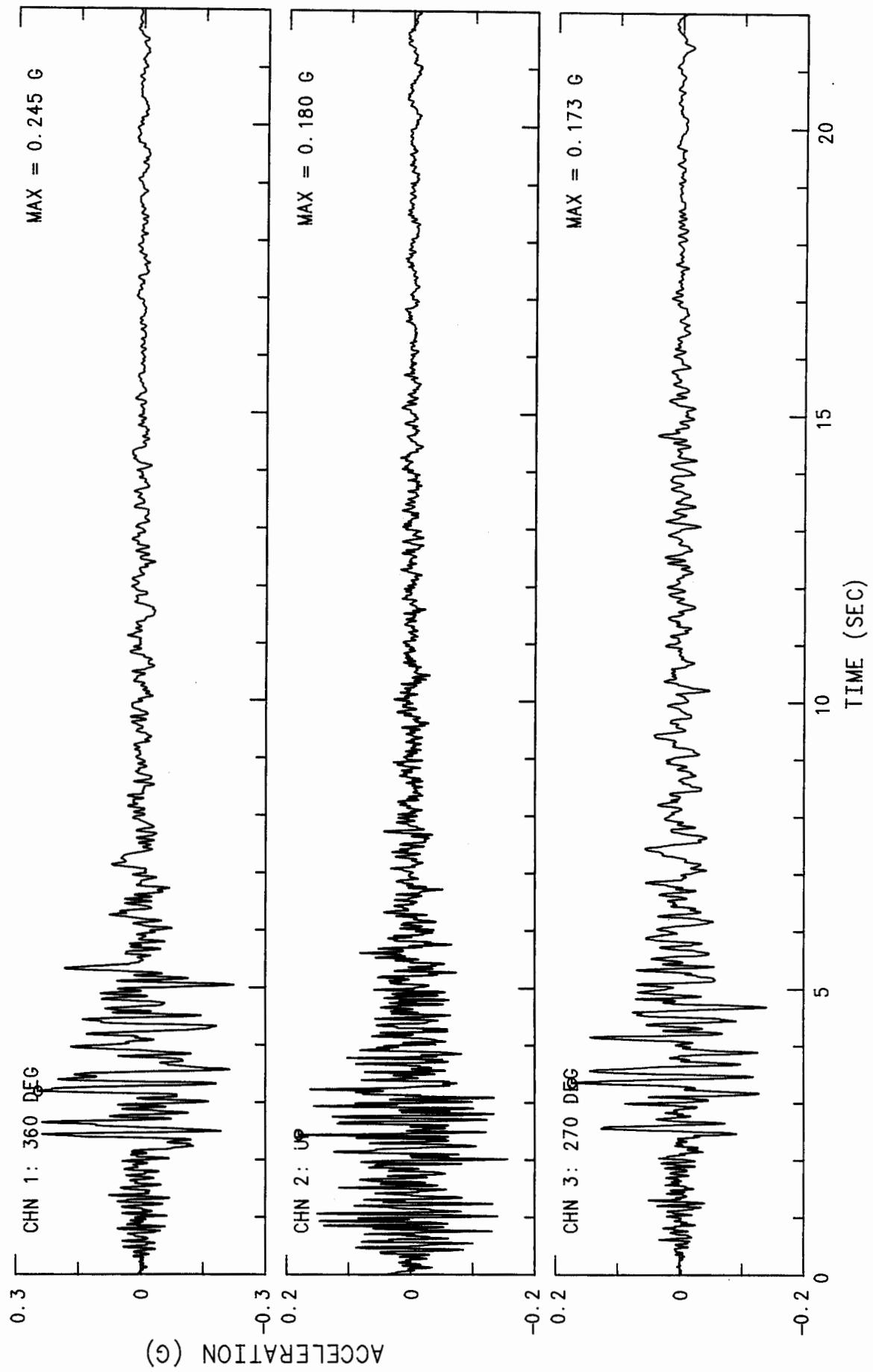
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH LURA STREET HOUSE
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80048-S1468-87000.01.1 060189.1206-QW87A048



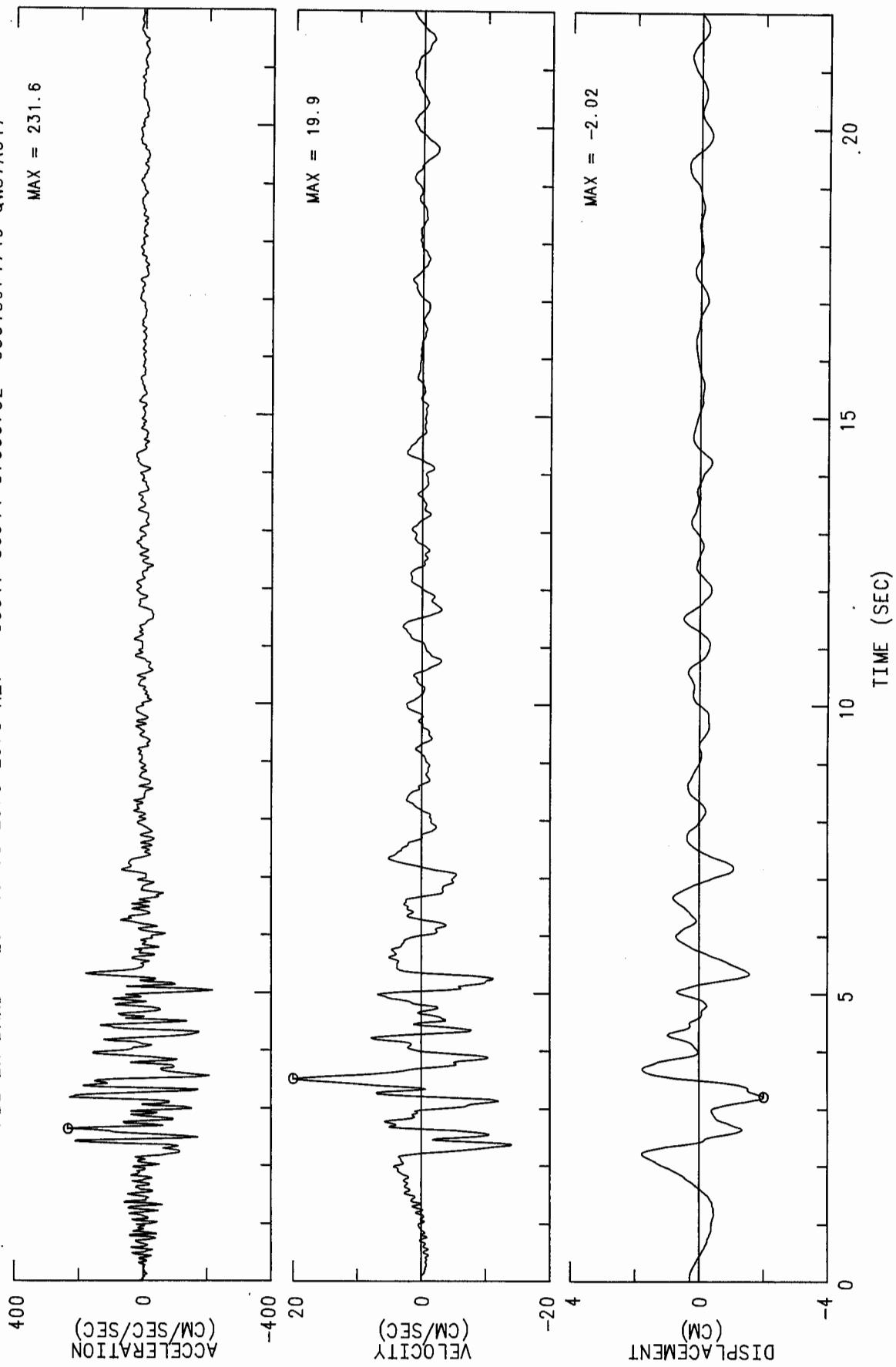
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH CALIF. BLVD. HOUSE
UNCORRECTED ACCELERGRAM 80047-S0914-87000.02 042889.0940-QW87A047



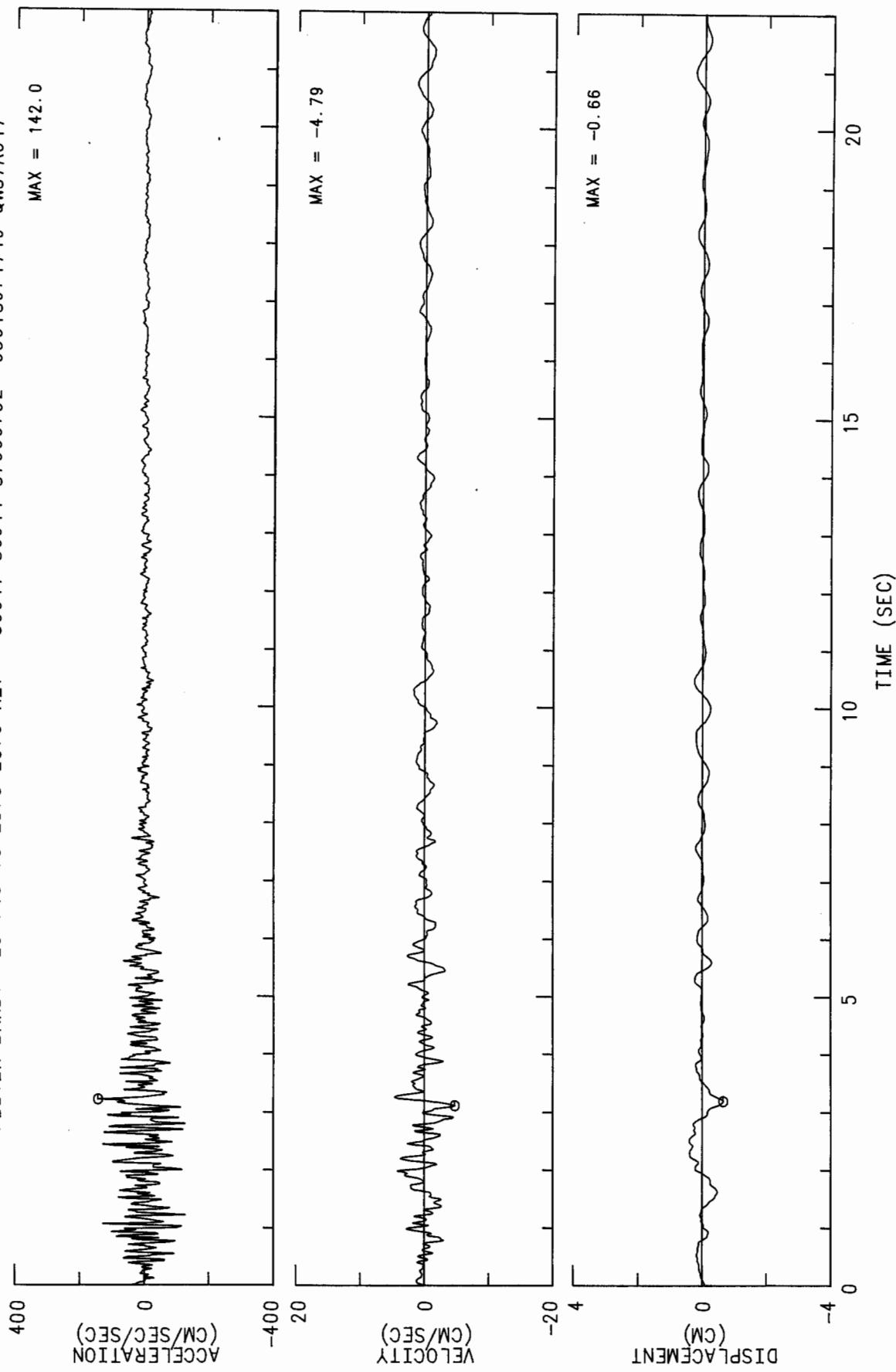
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH CALIF. BLVD. HOUSE
UNCORRECTED ACCELEROMGRAM 80047-S0914-87000.02 042889.0940-QW87A047



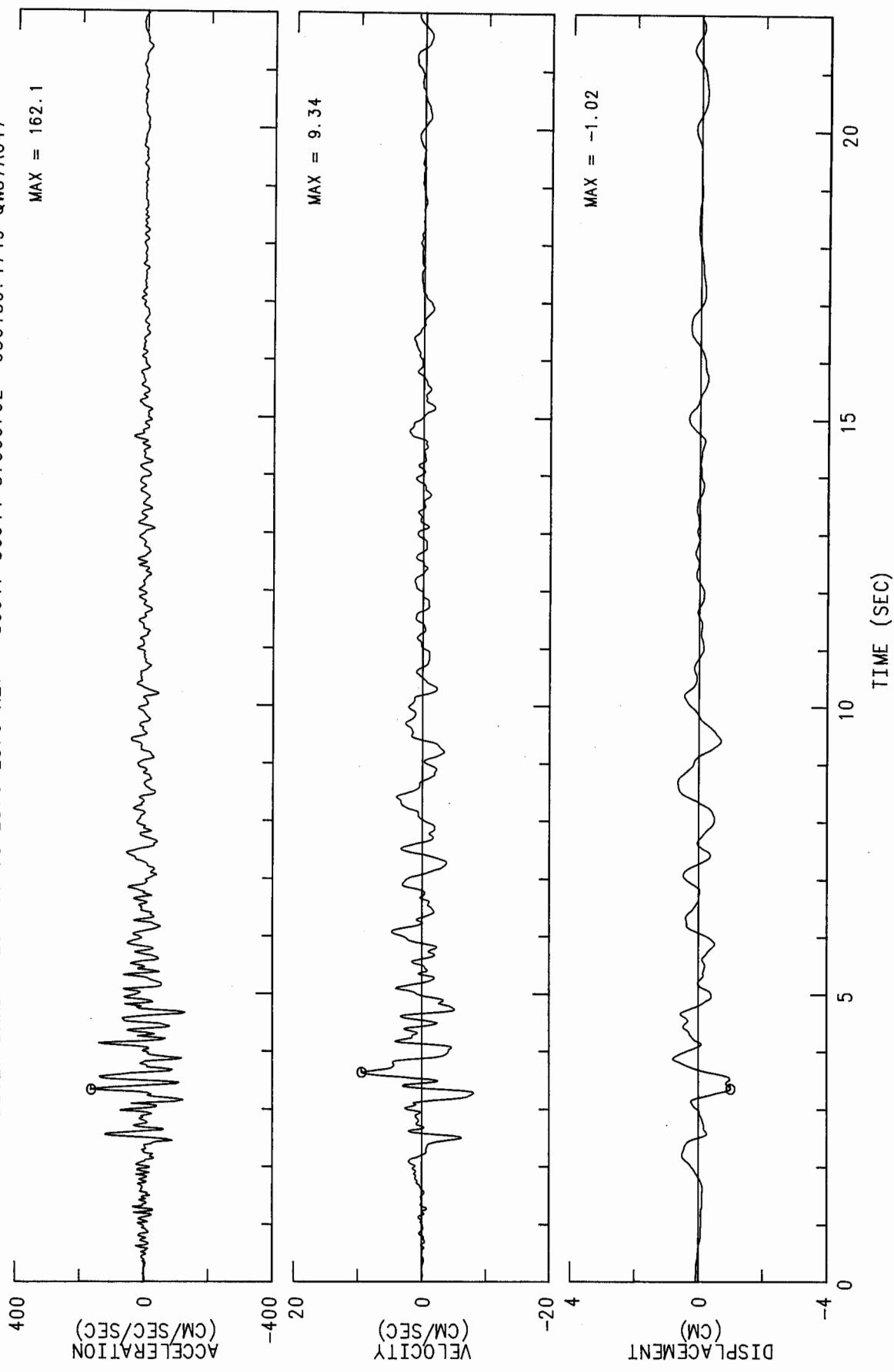
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH CALIF. BLVD. HOUSE CHN 1: 360 DEG
 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80047-S0914-87000.02 050189.1749-QW87A047



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CAL TECH CALIF. BLVD. HOUSE CHN 2: UP
 INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
 FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80047-S0914-87000.02 050189.1749-QW87A047

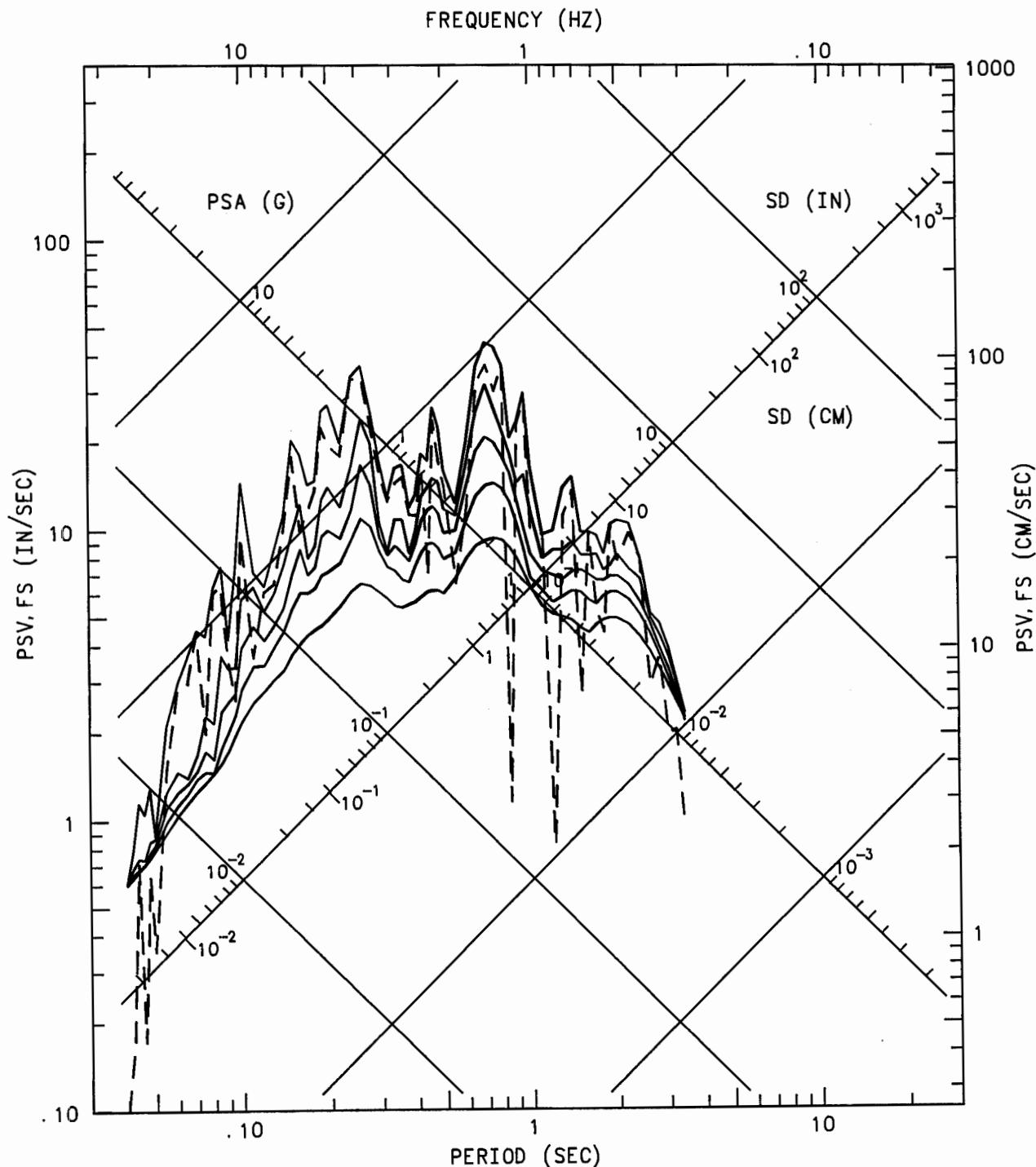


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH CALIF. BLVD. HOUSE CHN 3: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80047-S0914-87000.02 050189.1749-QW87A047



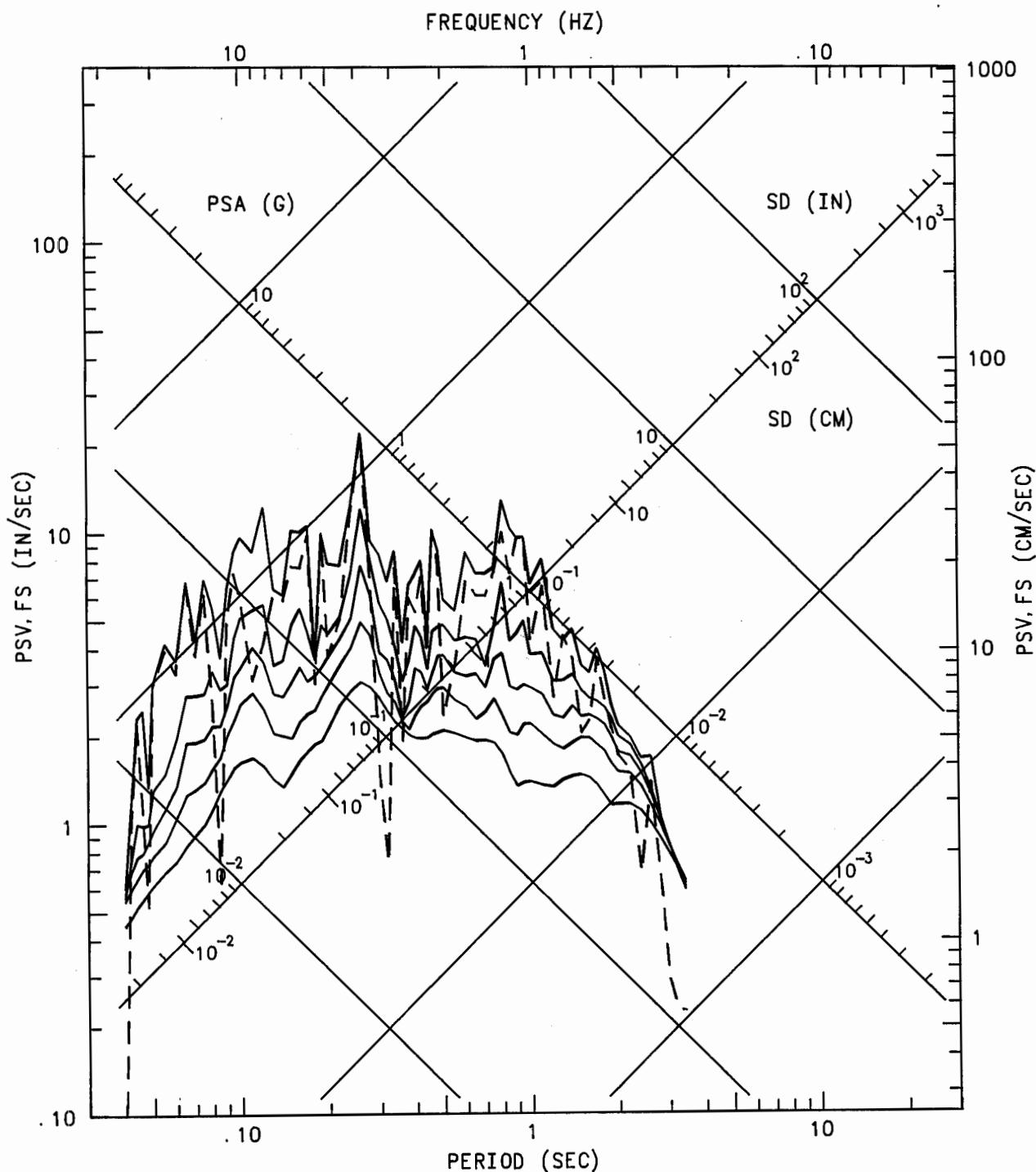
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH CALIF. BLVD. HOUSE
 CHN 1: 360 DEG
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80047-S0914-87000.02 060189.1126-QW87A047

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



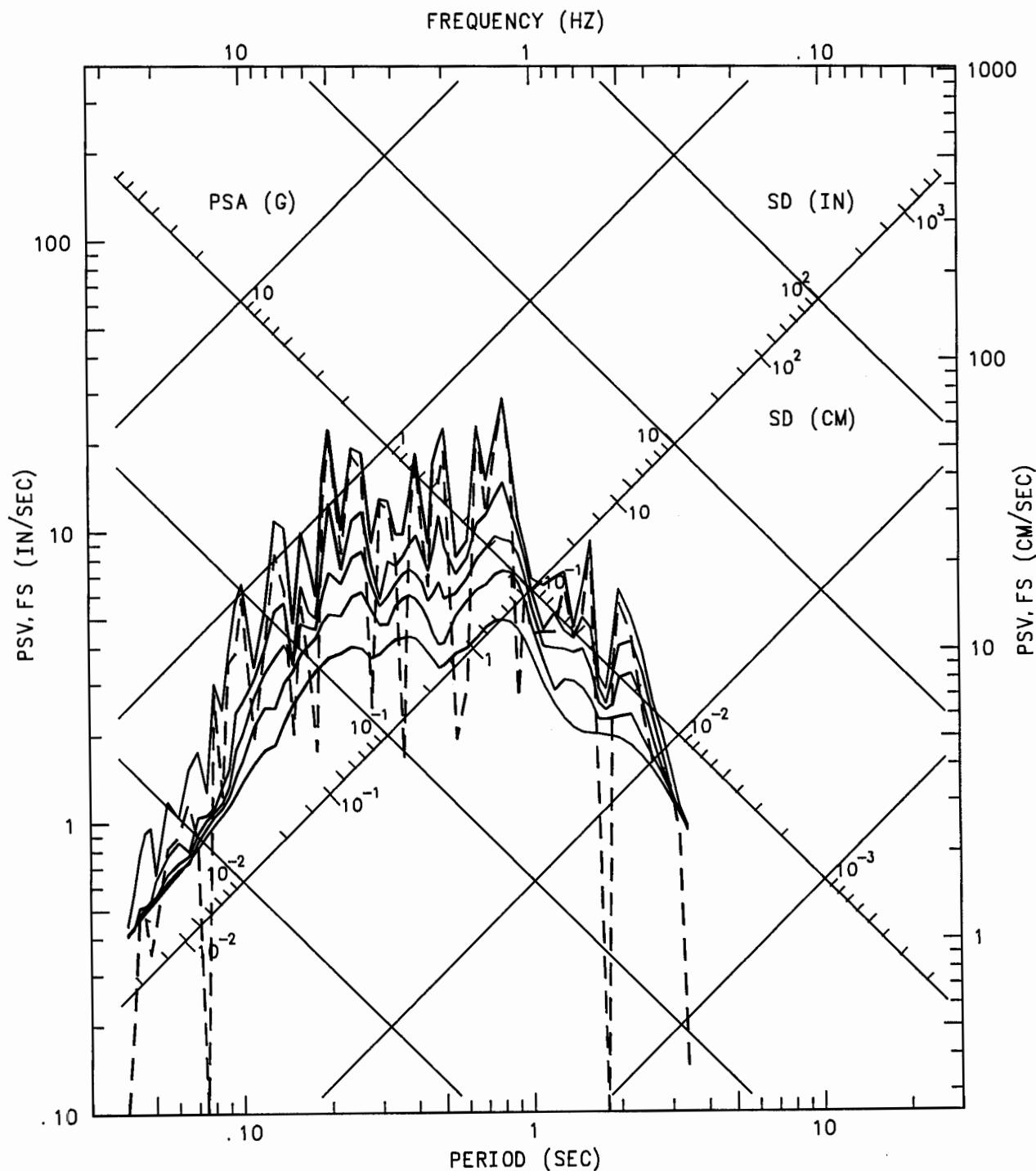
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH CALIF. BLVD. HOUSE
CHN 2: UP
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
80047-S0914-87000.02 060189.1126-QW87A047

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
DAMPING VALUES: 0, 2, 5, 10, 20%

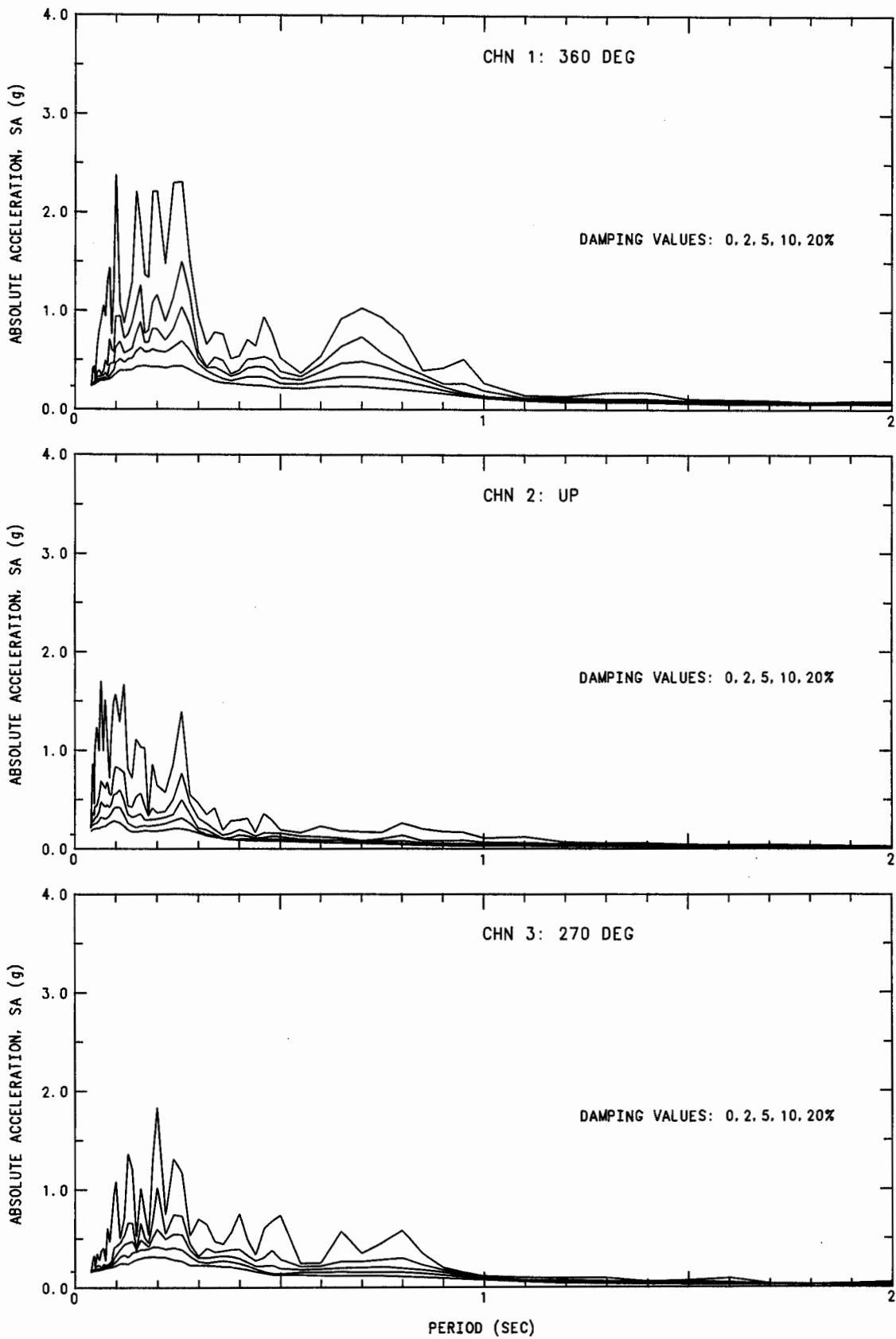


WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH CALIF. BLVD. HOUSE
 CHN 3: 270 DEG
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80047-S0914-87000.02 060189.1126-QW87A047

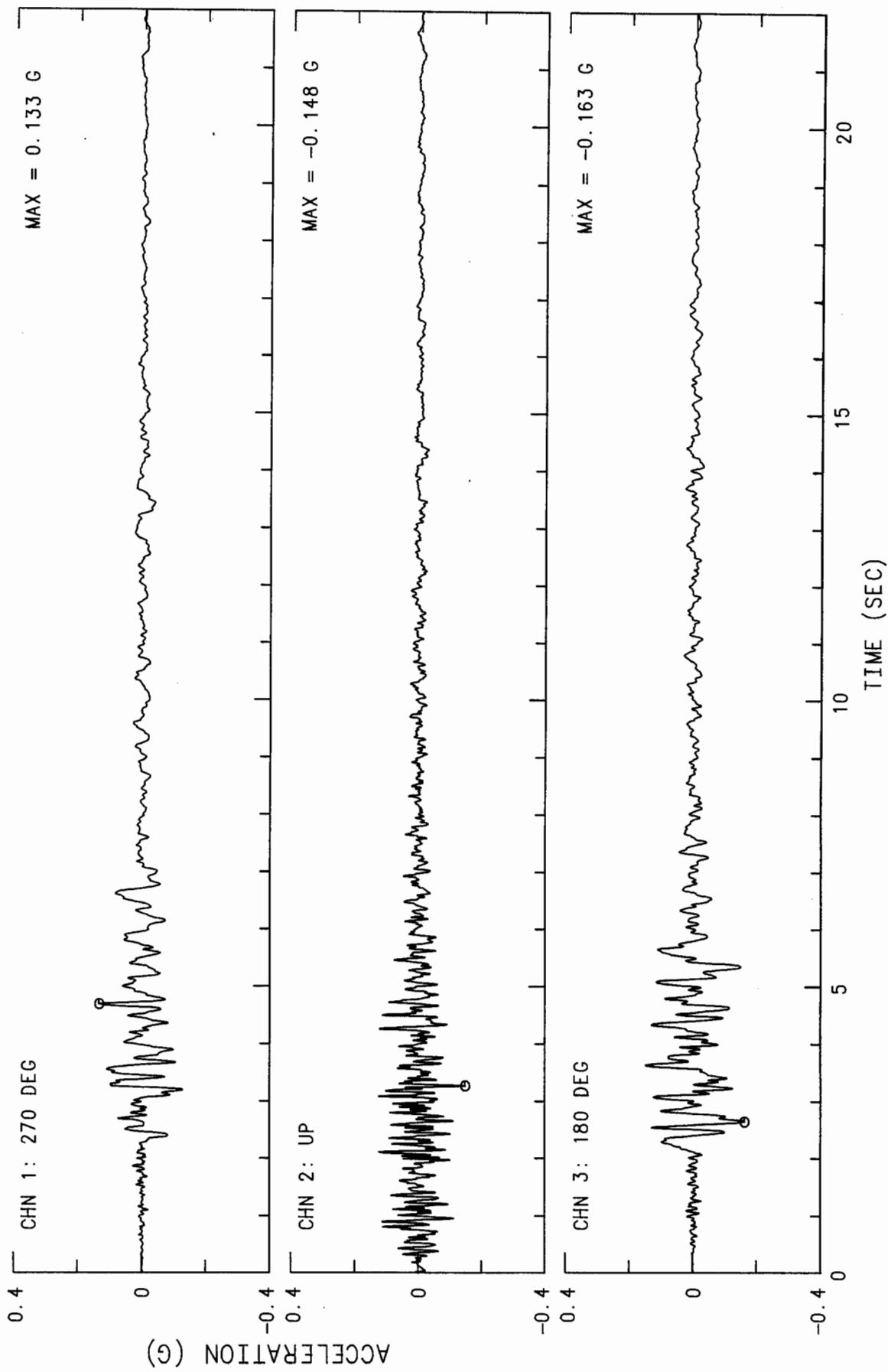
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



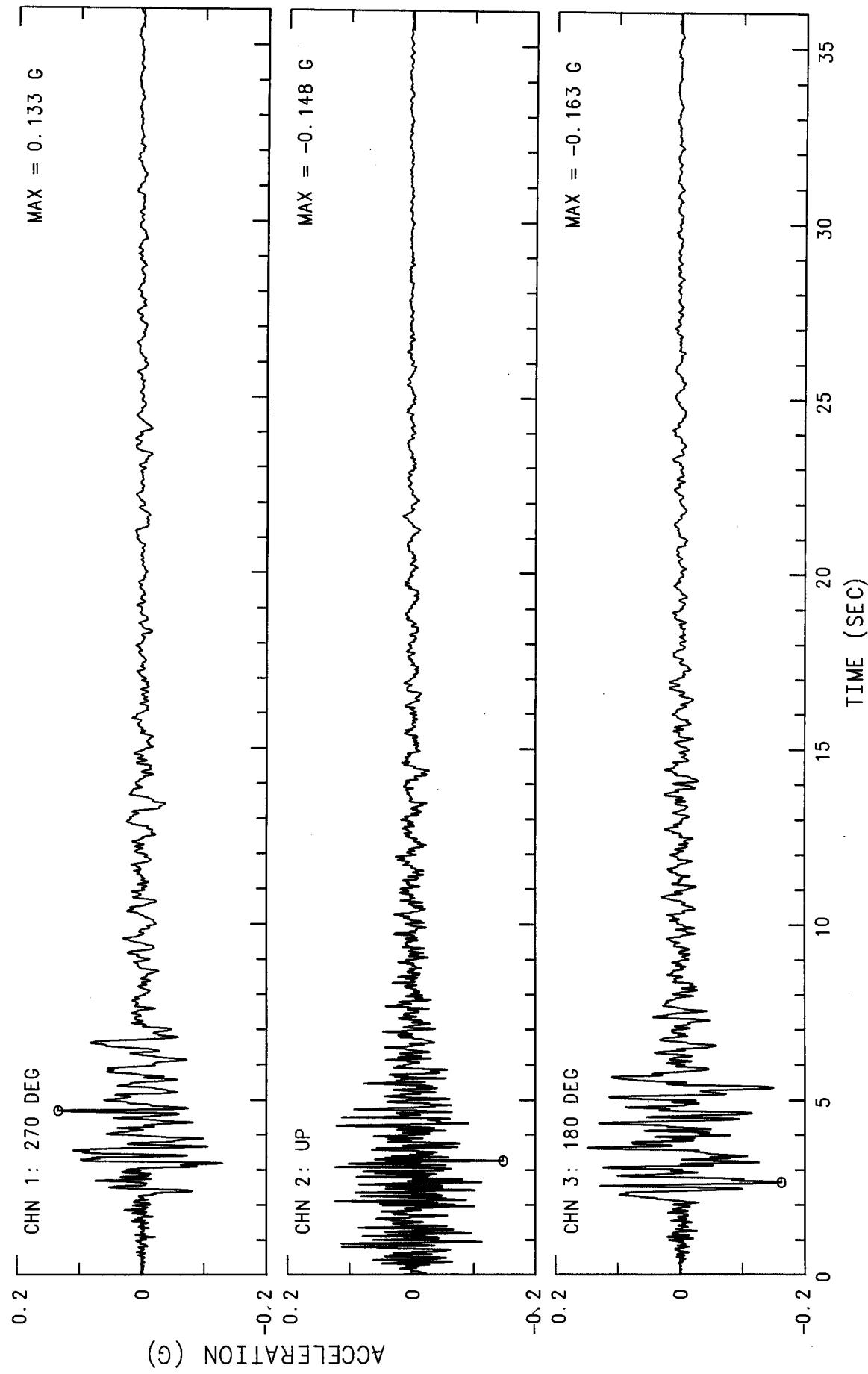
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH CALIF. BLVD. HOUSE
ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80047-S0914-87000.02 060189.1126-QWB7A047



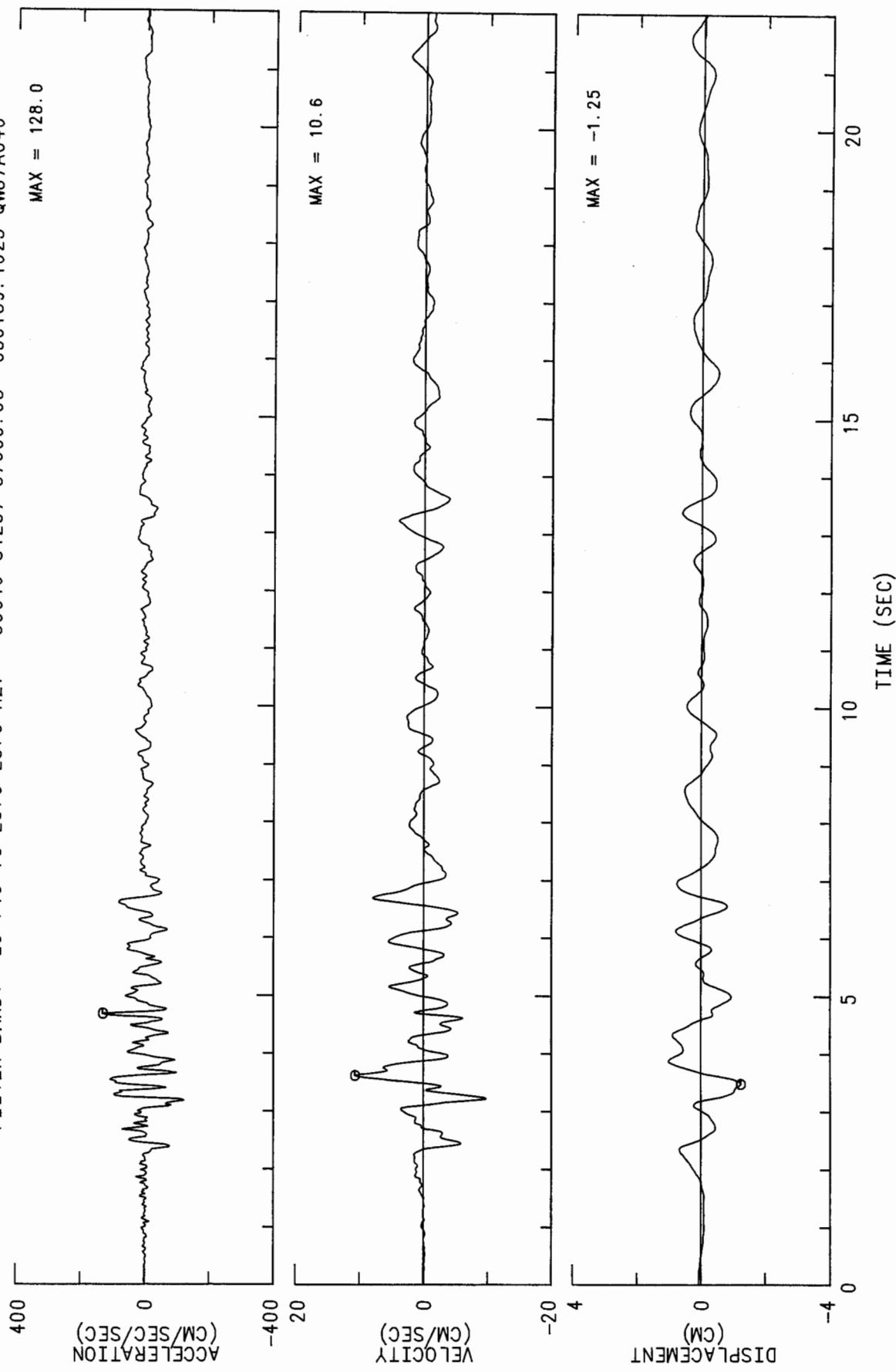
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH BROWN ATHLETIC CENTER
UNCORRECTED ACCELERGRAM 80046-S1257-87000.03 042889.1019-QW87A046



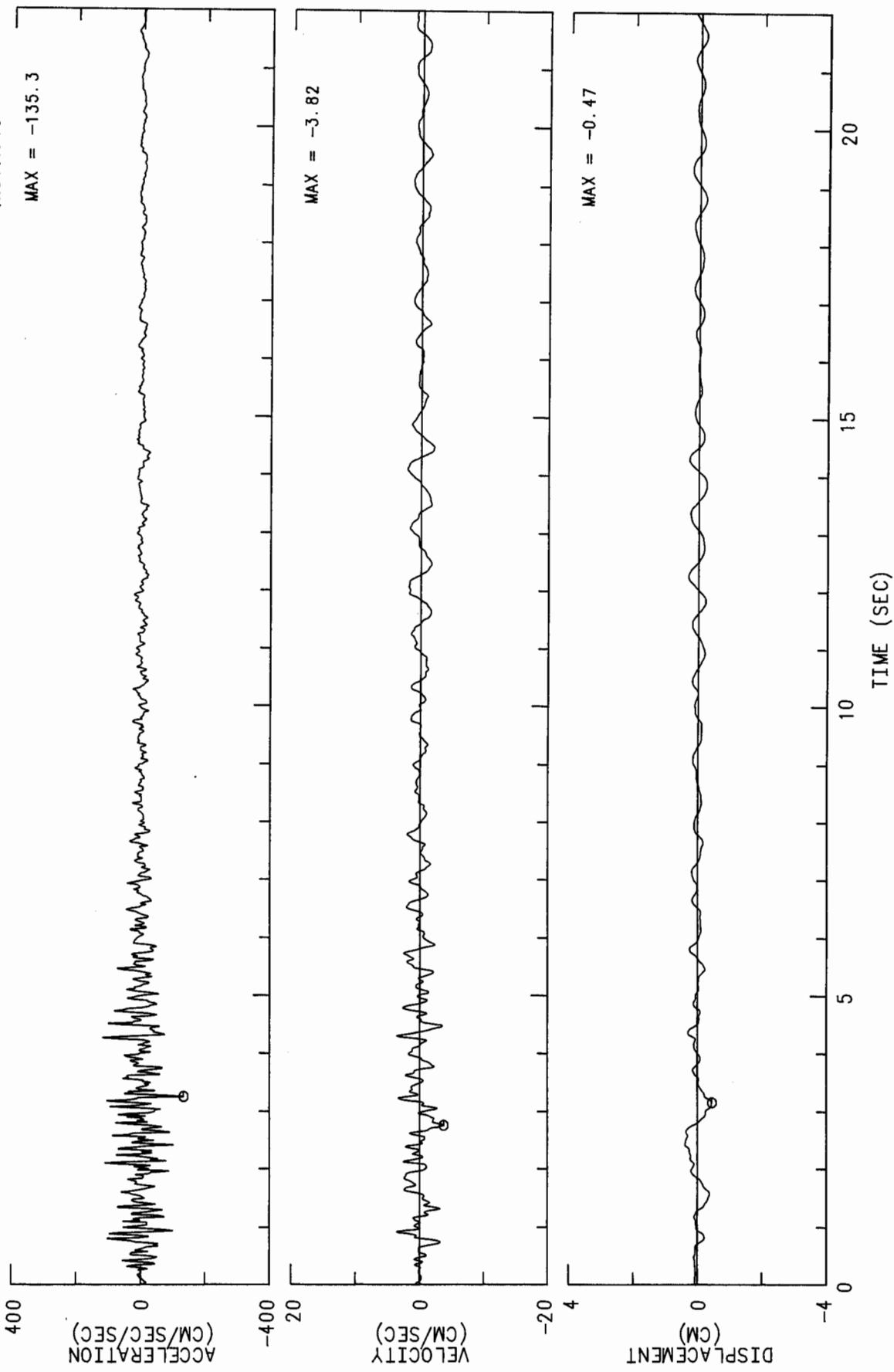
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BROWN ATHLETIC CENTER
UNCORRECTED ACCELEROMGRAM 80046-S1257-87000.03 042889.1019-QW87A046



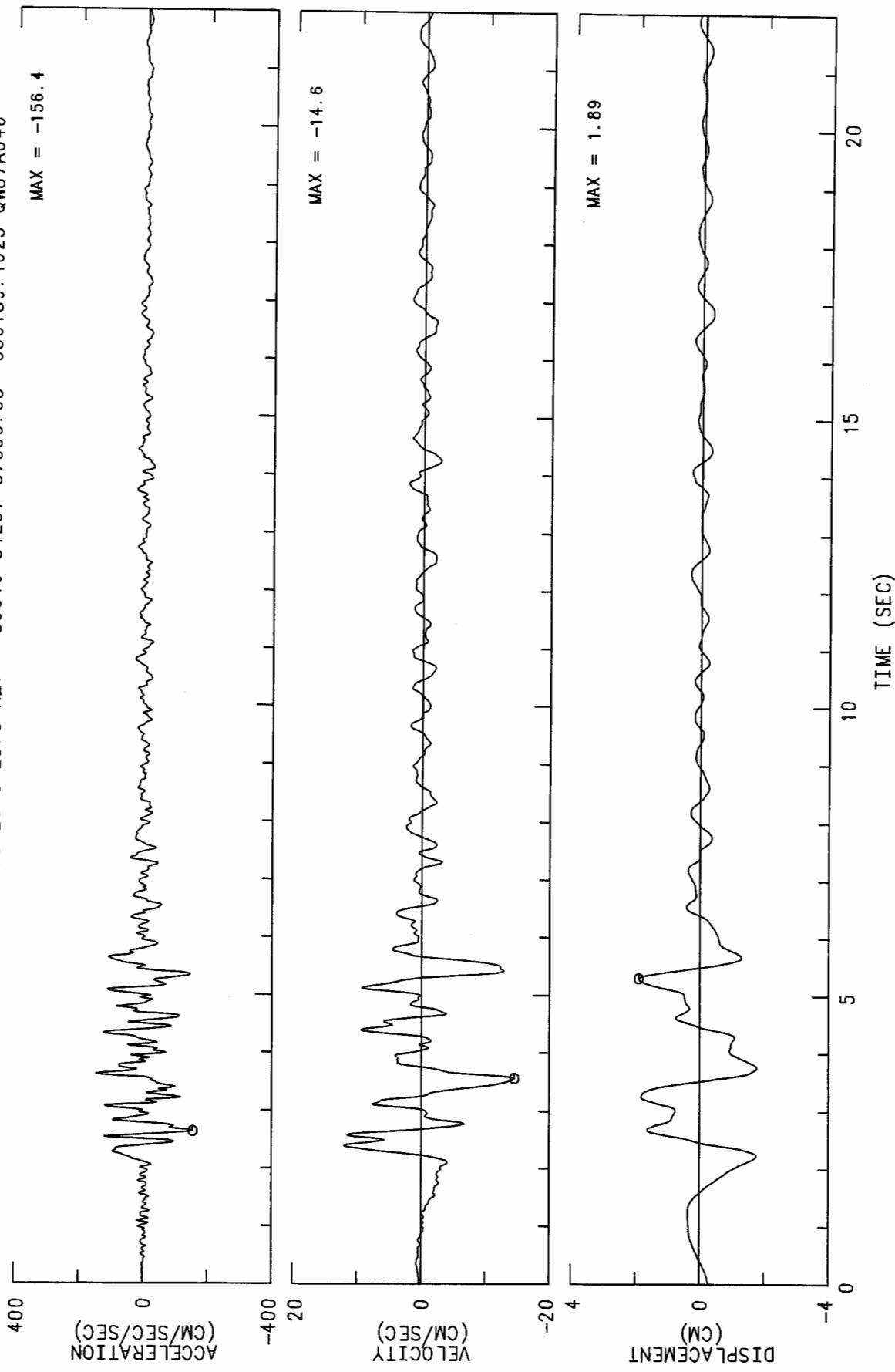
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BROWN ATHLETIC CENTER CHN 1: 270 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80046-S1257-87000.03 050189.1623-QW87A046



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BROWN ATHLETIC CENTER CHN 2: UP
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: 20-.40 TO 23.0-25.0 HZ. 80046-S1257-87000.03 050189.1623-QW87A046



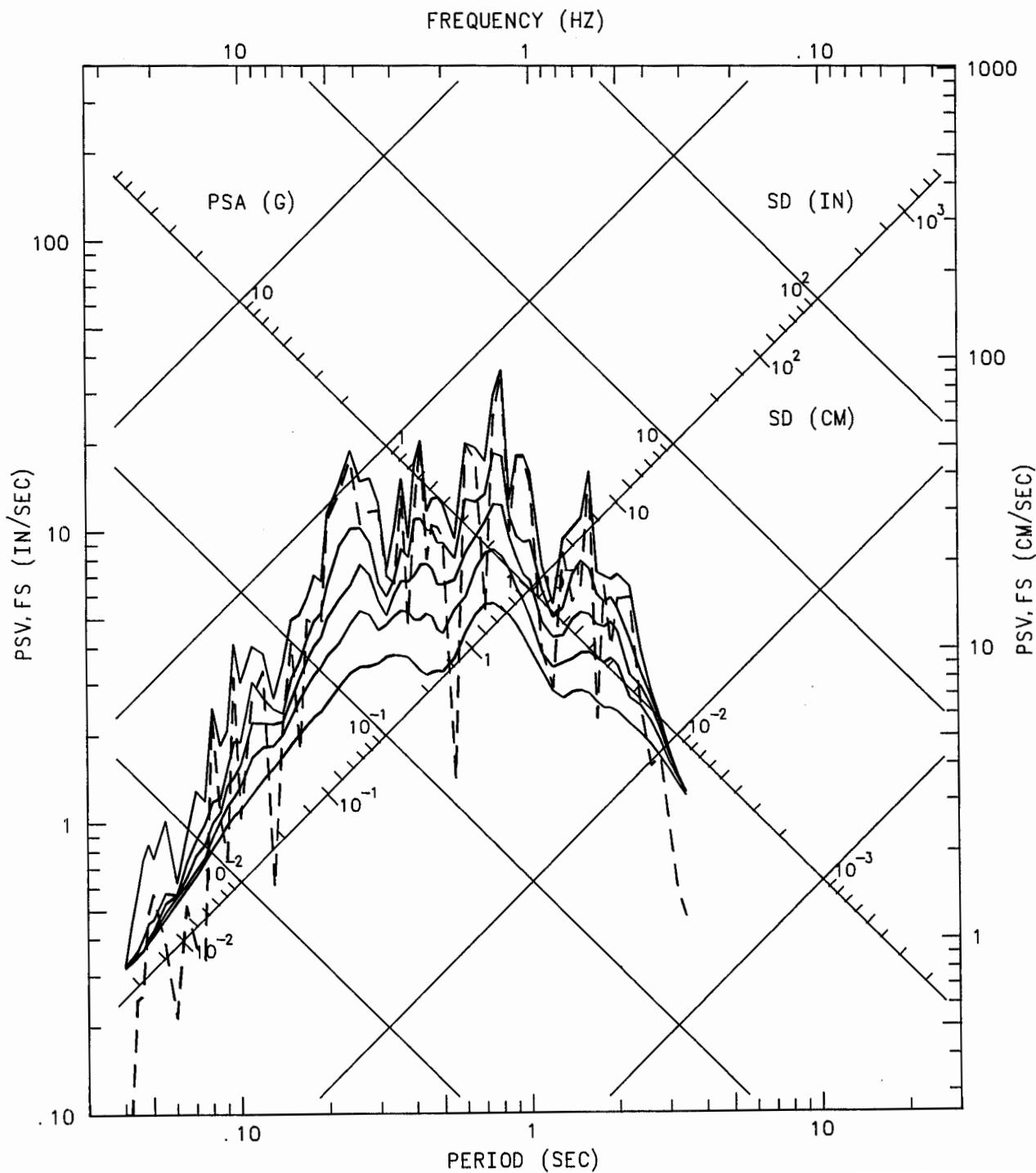
WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CAL TECH BROWN ATHLETIC CENTER CHN 3: 180 DEG
INSTRUMENT-CORRECTED AND BANDPASS-FILTERED ACCELERATION, VELOCITY AND DISPLACEMENT
FILTER BAND: .20-.40 TO 23.0-25.0 HZ. 80046-S1257-87000.03 050189.1623-QW87A046



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH BROWN ATHLETIC CENTER
 CHN 1: 270 DEG

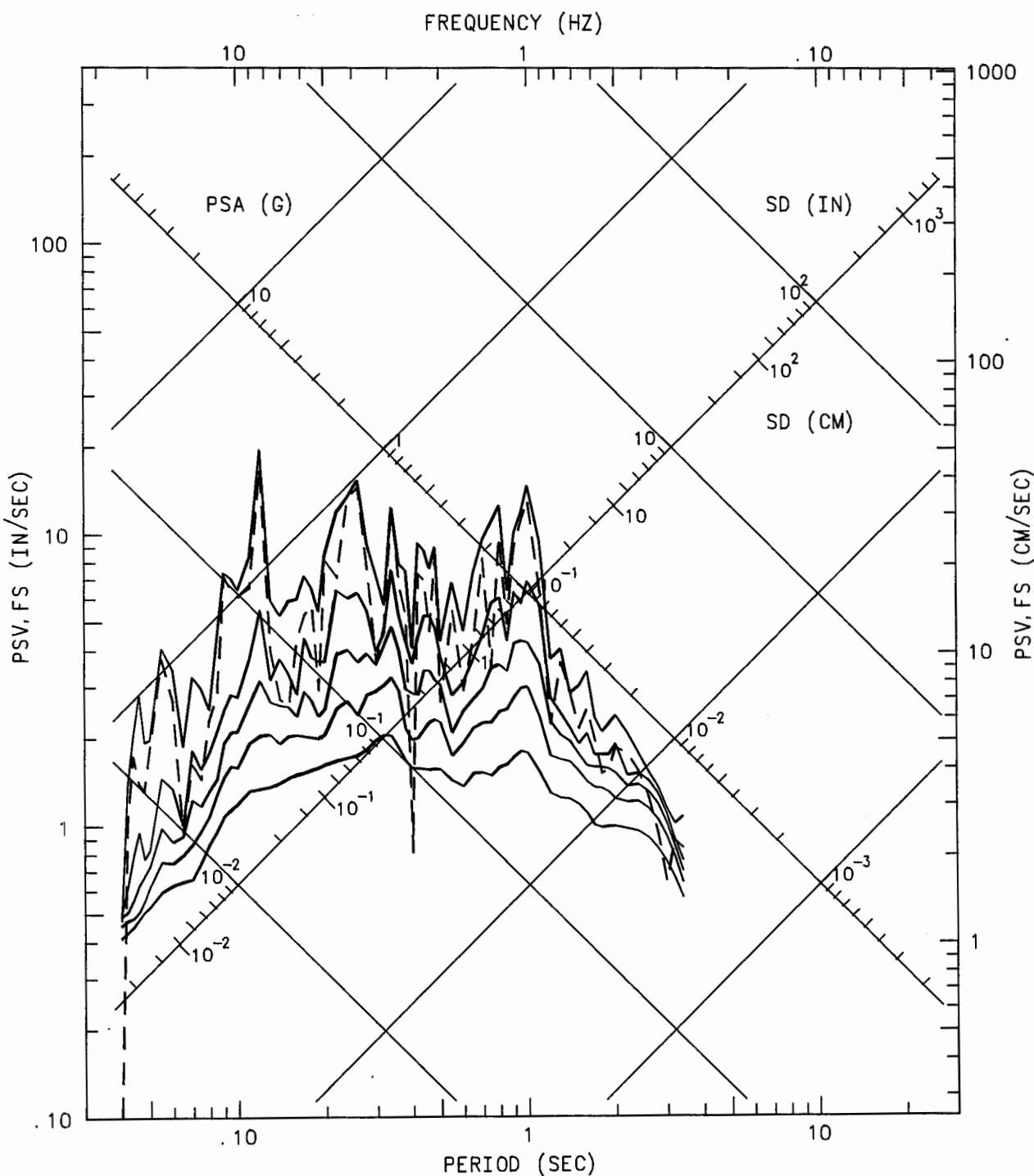
ACCELEROGRAF BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80046-S1257-87000.03 060189.1055-QW87A046

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH BROWN ATHLETIC CENTER
 CHN 2: UP
 ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80046-S1257-87000.03 060189.1055-QW87A046

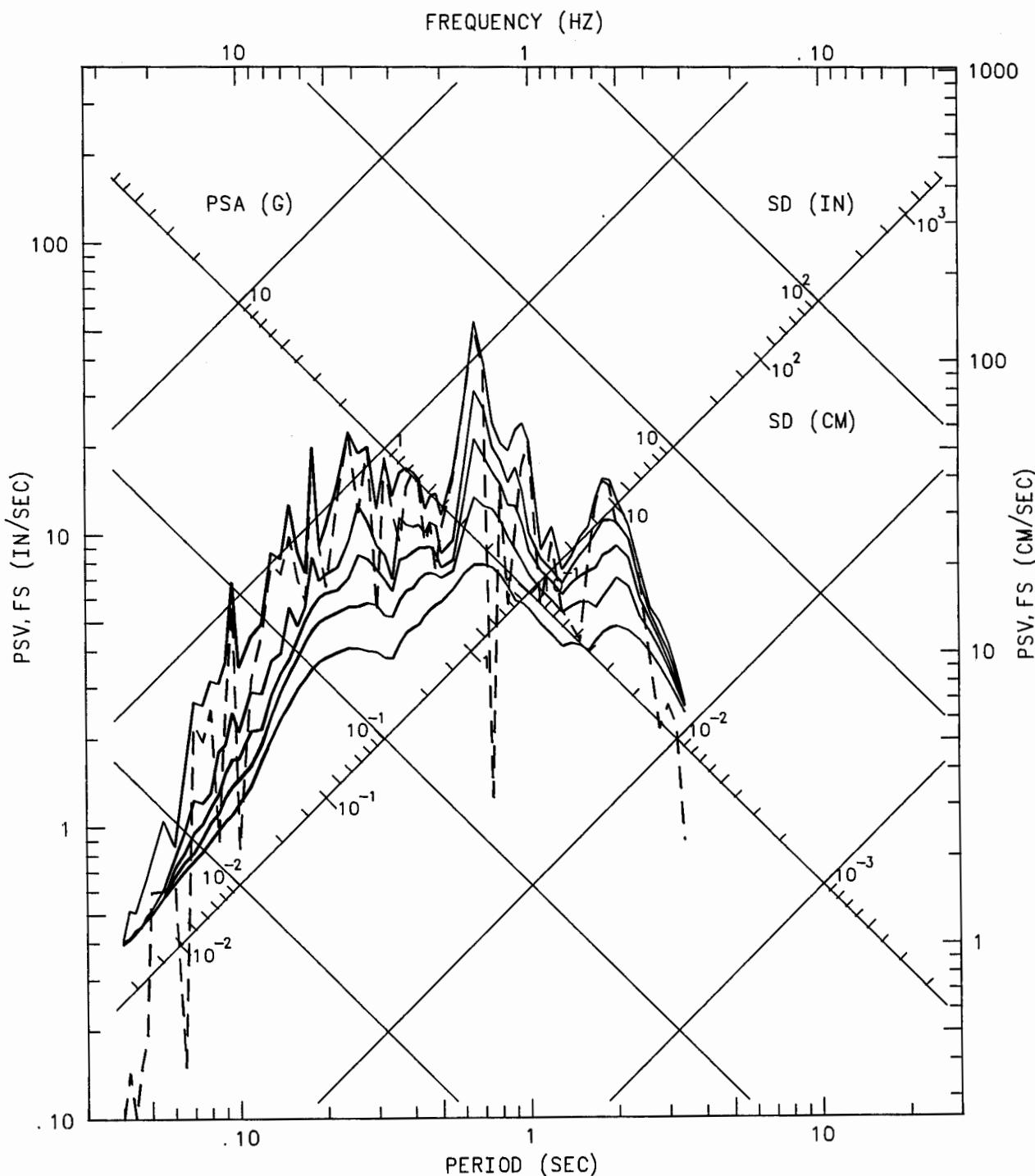
— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
 PASADENA - CALTECH BROWN ATHLETIC CENTER
 CHN 3: 180 DEG

ACCELEROGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 Hz.
 80046-S1257-87000.03 060189.1055-QW87A046

— RESPONSE SPECTRA: PSV, PSA & SD — — FOURIER AMPLITUDE SPECTRUM: FS
 DAMPING VALUES: 0, 2, 5, 10, 20%



WHITTIER EARTHQUAKE OCTOBER 1, 1987 07:42 PDT
PASADENA - CALTECH BROWN ATHLETIC CENTER
ACCELEROMGRAM BANDPASS-FILTERED WITH RAMPS AT .20-.40 TO 23.0-25.0 HZ.
80046-S1257-87000.03 060189.1055-QW87A046

